FINAL

ENVIRONMENTAL ASSESSMENT FOR THE MANAGEMENT OPTIONS FOR BRANCH MEMORIAL PARK AND POND, EDWARDS AIR FORCE BASE, CALIFORNIA

September 2008

95th Air Base Wing
Environmental Management Directorate
Edwards Air Force Base, California

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14. ABSTRACT

This report presents the results of the Environmental Assessment (EA) which evaluated the potential environmental effects associated with different management options for Branch Memorial Park and Pond. This EA was requested by the 95th Air Base Wing, Environmental Management Directorate at Edwards AFB, California, and was conducted by JT3/CH2M HILL, from May 2008 through September 2008. Pursuant to the National Environmental Policy Act of 1969 (NEPA), this EA has been prepared to analyze the potential environmental consequences of the proposed alternatives. There were six alternatives identified for the future management of Branch Memorial Park and Pond. The alternatives ranged from completely closing both the park and pond, to immediately returning the site to operational conditions, and potentially making necessary repairs in the future to return the site previous conditions. All objectives were met.

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FINAL

FINDING OF NO SIGNIFICANT IMPACT

FOR THE MANAGEMENT OPTIONS FOR BRANCH MEMORIAL PARK AND POND, EDWARDS AIR FORCE BASE, CALIFORNIA

1.0 INTRODUCTION

In 2007, Air Force Materiel Command approved the funding of a $1.6 million project to inspect, repair, and clean the South Base water wells. This project is currently in the design phase and is scheduled to begin at the end of Fiscal Year (FY) 2008. In March 2008, the turbine on the Water Well C-1 pump failed. This water well did not last long enough to be inspected and repaired at the end of FY 2008. At that point, the 95th Air Base Wing (95 ABW) Civil Engineer and Transportation Directorate (Civil Engineering) diverted water that is normally supplied to Branch Memorial Park's restrooms and irrigation system to the pond. This action was taken in an attempt to keep the water level up and the fish alive. This also allowed the 95 ABW commander (decision maker) time to review the management alternatives for the park and pond. Civil Engineering identified six alternatives to be considered by the decision maker. Individually, the alternatives qualify as categorical exclusion actions as described in the *National Environmental Policy Act of 1969 (NEPA)* (Title 40 Code of Federal Regulations [CFR] Section 1500 et seq.). However, 40 CFR 1501.3(b) says that 'agencies may prepare an environmental assessment (EA) on any action at any time in order to assist agency planning and decision making.' This document has been compiled to assist the decision maker in choosing a management alternative for Branch Memorial Park and Pond.

2.0 DESCRIPTION OF THE PROPOSED ACTION ALTERNATIVES

The following is a brief description of the six action alternatives included in the EA which is incorporated herein by reference:

a. Alternative A–Discontinue diverting water, continue maintaining the picnic area and restrooms, and repair the well with end of FY 2008 funds (Proposed Action);

b. Alternative B–Discontinue diverting water to the pond and maintenance of the park (Close Branch Memorial Park and Pond);

c. Alternative C–Use Facility Operations supply funds to repair the pump as soon as possible and restore the site to full operation;

d. Alternative D–Rotate water outages between the pond and restrooms, increase operational oversight to avoid fish kills and unsanitary restrooms, and repair the well with end of FY 2008 funds;

e. Alternative E–Close the restroom facilities, divert water to the pond, provide portable toilets, and manually water the landscaping; and

f. Alternative F–Rotate water outages between the pond and irrigation system, provide portable toilets, and repair the well with end of FY 2008 funds (No Action Alternative).

3.0 ENVIRONMENTAL CONSEQUENCES

This EA has analyzed several components of the natural and manmade environment for potential impacts as a result of the project alternatives. The potential impacts were identified and evaluated under the following categories: Safety and Occupational Health, Water Resources, Hazardous Waste and Solid Waste Recyclables, Biological Resources, Energy Resources, and Socioeconomics. No potentially significant adverse impacts were identified in any of these categories, except for socioeconomics, under the six alternatives that were considered based on the potential significance, and ongoing implementation of best management practices and other procedures that ensure compliance with all applicable regulations. The impacts to socioeconomics that could result from the implementation of alternatives B or E could be viewed as significant to the public. However, according to 40 CFR 1508.14, an environmental impact statement (EIS) does not have to be prepared as a result of social effects. The following is a list of the more significant consequences identified in the EA and the actions that would be taken to eliminate or minimize the environmental concerns.

a. The banks of the pond would erode, becoming unstable and steep due to the reduction in the water level. The Air Force Flight Test Center Ground Safety division should be consulted to ensure appropriate measures are taken to eliminate any concern of slip-and-fall risks.

b. Maintenance personnel may be exposed to hazardous noise levels, materials, or environmental conditions. Repair activities would include the use of construction equipment that may produce hazardous noise levels. Hazardous materials that may be encountered would be very minor amounts. All applicable best management practices and standard procedures that ensure compliance with regulations should be implemented and followed to eliminate any concern for maintenance personnel's safety.

c. Stagnant pond water due to the lack of proper aeration and decrease in fish population provides a suitable breeding environment for mosquitoes. To eliminate the concern for the spread of West Nile virus, the Installation Pest Control Manager should be consulted with to identify acceptable actions that can be taken to eliminate or control mosquito breeding environments.

d. The reduction or loss of water sources at the park and pond could result in trees drying up and eventually dying. This would provide fueling sources for wildfires. The base Fire Department should be consulted for acceptable measures that should be taken to eliminate any concern for the availability of wildfire fueling sources.

e. Continued management of Branch Memorial Park and Pond would result in the on-going use of groundwater resources. The pond has been in operation for over 40 years and the aquifer being used to fill the pond has not had a problem keeping up with the water demand. Approximately 20 percent of the water in the pond is lost due to evaporation and leakage. In an effort to reduce the amount of water lost at the pond, the trees in the area that require a large amount of water to survive could be removed.

f. Small amounts of hazardous waste may be generated during maintenance and repair activities. The base is already considered a large quantity hazardous waste generator and follows all applicable regulations for the appropriate management of hazardous waste. Parts not containing hazardous waste could be managed as recyclable scrap metal. Managing scrap metal through the recyclable scrap metal program would result in a positive impact for the environment and additional funding for the base recycling program.

g. The loss of the park or pond would have a negative impact on the biological resources that use the area for foraging or nesting. Both permanent and migratory species would have to relocate to an alternate location for foraging, nesting, and finding water sources. The species using this area are not considered sensitive or endangered under the *Endangered Species Act of 1973* (Title 16 United States Code Section 1531 et seq.).

h. Continued management of Branch Memorial Park and Pond would result in the on-going use of energy resources. The amount of energy resources consumed to maintain original conditions at Branch Memorial Park and Pond is minimal with respect to the overall base energy usage. Civil Engineering may need to research alternate energy saving techniques. The Leadership in Energy and Environmental Design team could also be consulted to identify the best energy saving techniques that are available.

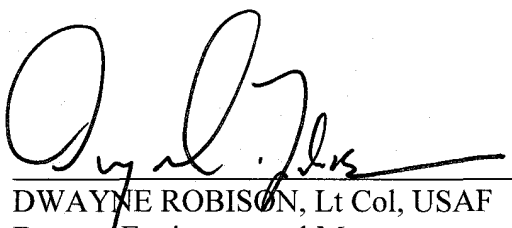
i. If the park and pond are closed or degraded, base personnel would not have this contrasting environment to escape to for private or organizational gatherings, fishing, bird watching, or simply relaxing. Additional fees would be incurred by base personnel if they were forced to use off-base locations for fishing activities.

Decisions regarding the significance of impacts, as defined under *NEPA*, are based on a consensus of the interpretation of environmental regulations by qualified agencies; previously certified environmental documentation for similar projects; and trained and experienced professionals in each environmental field.

4.0 FINDINGS

On the basis of the findings documented in this EA, the only potential significant impact to the human environment that could result from the implementation of any of the six project alternatives would be in regards to base personnel's quality of life. No mitigation measures are recommended. Therefore, issuance of a finding of no significant impact is warranted and preparation of an EIS is not required. Background information that supports the research and development of this EA can be found in the administrative file which is on file at Edwards Air Force Base, California and can be obtained by contacting the following:

95 ABW/EM
Environmental Management
Attn: Mr. Gary Hatch
5 East Popson Avenue
Edwards Air Force Base, California 93524-8060
(661) 277-1454



DWAYNE ROBISON, Lt Col, USAF
Deputy, Environmental Management

19 Sep 08
Date

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TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Concluded)

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LIST OF FIGURES

LIST OF TABLES

APPENDIX C

APPENDIX D

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LIST OF ABBREVIATIONS AND ACRONYMS

95 ABW	95th Air Base Wing
ACM	asbestos-containing material
AFB	Air Force Base
AFFTC	Air Force Flight Test Center
AFI	Air Force Instruction
AFMC	Air Force Materiel Command
AFOSH	Air Force Occupational and Environmental Safety, Fire Protection, and Health
AFPD	Air Force Policy Directive
AST	aboveground storage tank
bgs	below ground surface
bhp	brake horsepower
Cal-OSHA	California Occupational Safety and Health Administration
CATEX	categorical exclusion
CDFG	California Department of Fish and Game
CESA	*California Endangered Species Act*
CFR	Code of Federal Regulations
dB	decibel
DOD	Department of Defense
EA	environmental assessment
EAFBI	Edwards Air Force Base Instruction
EIAP	Environmental Impact Analysis Process
EIS	environmental impact statement
EM	Environmental Management
EMCP	Environmental Management Directorate, Environmental Quality Division, Pollution Prevention Branch
EO	executive order
ESA	*Endangered Species Act of 1973*
FONSI	Finding of No Significant Impact
FY	fiscal year
gpm	gallons per minute

LIST OF ABBREVIATIONS AND ACRONYMS (Concluded)

HW	hazardous waste
HWMP	Hazardous Waste Management Plan
IAW	in accordance with
KCAPCD	Kern County Air Pollution Control District
LBP	lead-based paint
LEED	Leadership in Energy and Environmental Design
MBTA	*Migratory Bird Treaty Act of 1918*
MSWMP	Municipal Solid Waste Management Plan
NEPA	*National Environmental Policy Act of 1969*
NO_x	oxides of nitrogen
OSHA	Occupational Safety and Health Administration
PL	Public Law
PM10	particulate matter less than or equal to 10 microns/respirable particulate matter
PPA	*Pollution Prevention Act of 1990*
RCRA	*Resource Conservation and Recovery Act of 1976*
TPY	ton(s) per year
U.S.C.	United States Code
USFWS	United States Fish and Wildlife Service
VOC	volatile organic compound
§	Section

1.0 INTRODUCTION

1.1 Purpose of and Need for Action Alternatives

In 2007, Air Force Materiel Command (AFMC) approved the funding of a $1.6 million project to inspect, repair, and clean the South Base water wells. This project is currently in the design phase and is scheduled to begin at the end of Fiscal Year (FY) 2008. In March 2008, the turbine on the Water Well C-1 pump failed. This water well did not last long enough to be inspected and repaired at the end of FY 2008. At that point, the 95th Air Base Wing (95 ABW) Civil Engineer and Transportation Directorate (Civil Engineering) diverted water that is normally supplied to Branch Memorial Park's restrooms and irrigation system to the pond. This action was taken in an attempt to keep the water level up and the fish alive. This also allowed the 95 ABW commander (decision maker) time to review the management alternatives for the park and pond. Civil Engineering identified six alternatives, which are included in this document to be considered by the decision maker. Individually, the alternatives qualify as categorical exclusion actions as described in the *National Environmental Policy Act of 1969* (NEPA) (Title 40 Code of Federal Regulations [CFR] Section (§) 1500 et seq.). However, 40 CFR 1501.3(b) says that 'agencies may prepare an environmental assessment (EA) on any action at any time in order to assist agency planning and decision making.' This document has been compiled to assist the decision maker in choosing a management alternative for Branch Memorial Park and Pond. The alternative will be chosen by weighing the following factors:

a. Maintaining base personnel quality of life;

b. Reducing use of energy and water resources; and

c. Allocating operations and maintenance funds appropriately.

1.2 Location of Action Alternatives

Edwards Air Force Base (AFB) is located in the Antelope Valley region of the western Mojave Desert in Southern California. It is about 60 miles northeast of Los Angeles, California. The base occupies an area of approximately 301,000 acres or 470 square miles. Portions of the base lie within Kern, Los Angeles, and San Bernardino counties (Figure 1).

The location of the action alternatives discussed in this document is Branch Memorial Park and Pond. This recreation area is located west of Lancaster Boulevard off of Branch Park Road, which is approximately 1 mile north of the South Base Guard Station (Figure 2).

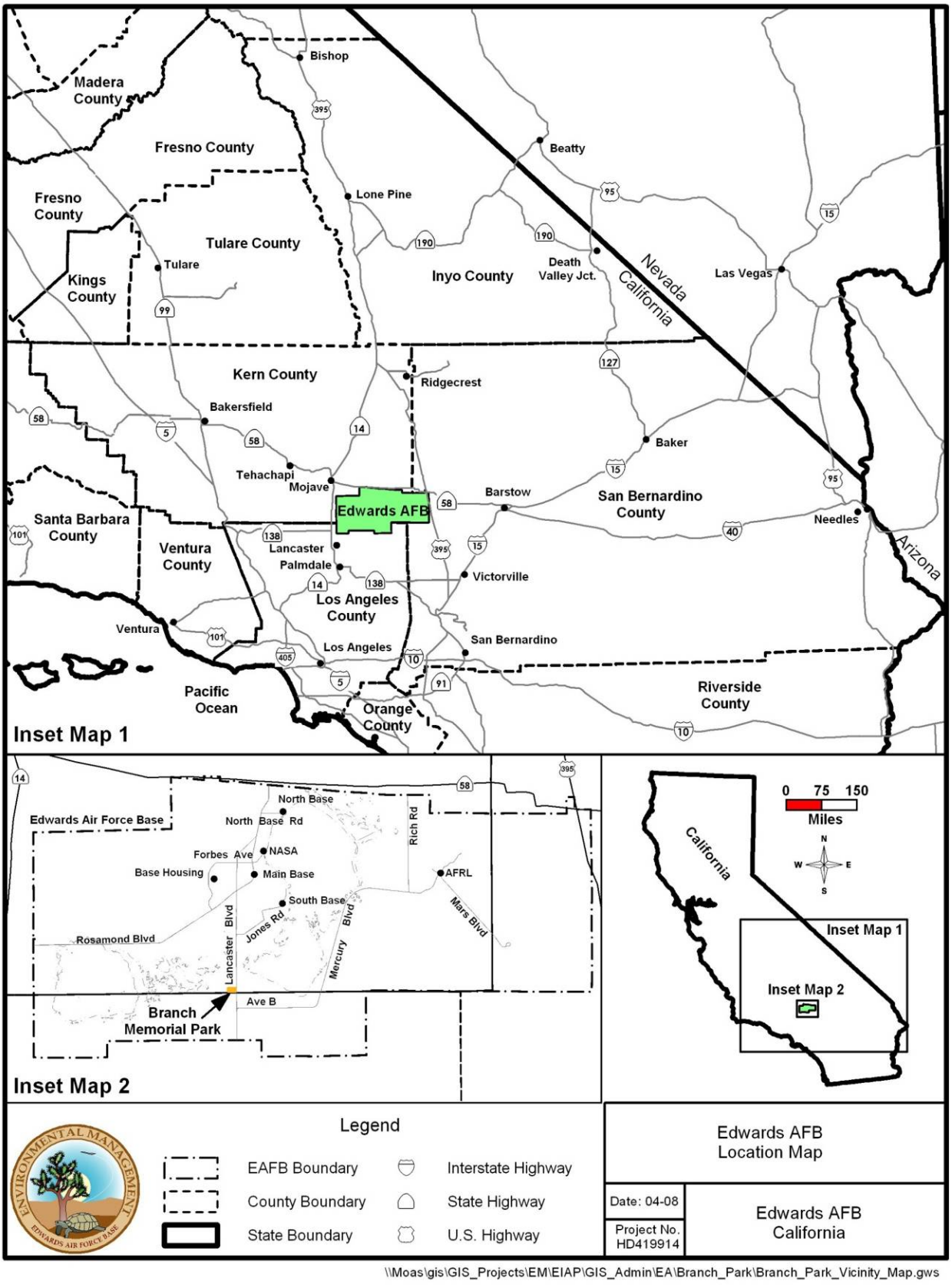

Figure 1. General Vicinity Map

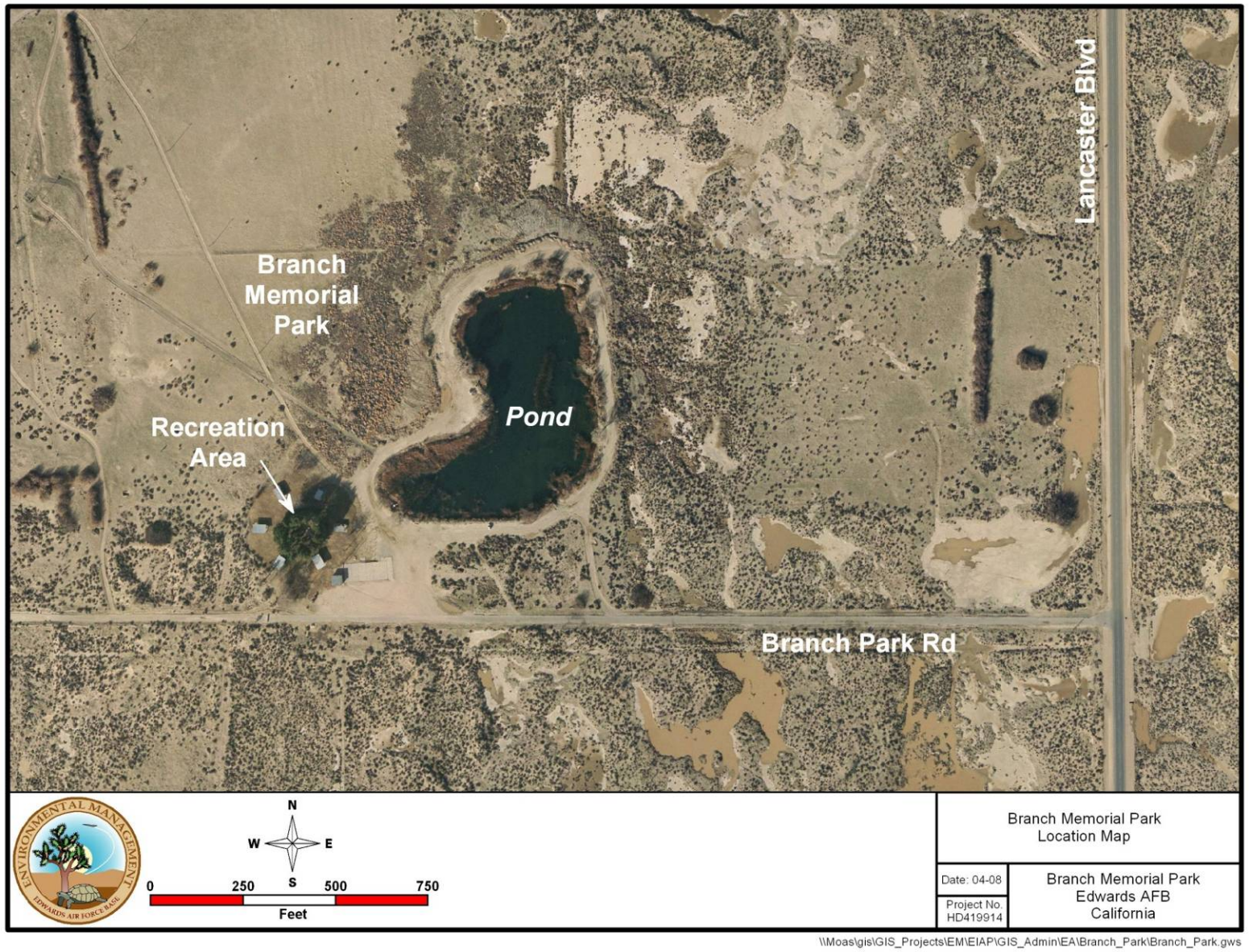

Figure 2. Branch Memorial Park and Pond Location

1.3 Issues and Concerns

According to 40 CFR 1502.1, an EA "shall provide full and fair discussion of significant environmental impacts and shall inform decision makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." Focusing only on the significant environmental issues reduces paperwork and the accumulation of extraneous background data (40 CFR 1502.1). Environmental issues that were raised during the preparation of this document include: safety and occupational health, water resources, hazardous waste (HW) and solid waste recyclables, biological and energy resources, and socioeconomics. These issues are not necessarily 'significant,' but rather highly controversial, which warrants the discussion of them for the decision maker's benefit. The resources that would not be affected by the action alternatives are presented in Section 1.3.2, Issues and Concerns Eliminated from Detailed Study, of this report.

1.3.1 Issues and Concerns Studied in Detail

During the scoping process, the following issues and concerns were identified as requiring assessment when considering the potential environmental impacts of the alternatives.

a. Safety and Occupational Health: Due to the lowering of the water level since March 2008, the banks of the pond have become very unstable and steep. This causes a safety hazard for people fishing and standing on the banks. Without a water source, trees surrounding the pond and park would die, causing concern for wildfires. Well repair activities would include the use of heavy equipment, which may exceed acceptable noise levels for maintenance personnel. Maintenance personnel may also be exposed to asbestos-containing materials (ACM) and lead-based paint (LBP). Personnel could be exposed to environmental conditions associated with heat stress, hypothermia, or venomous snakes and spiders. Stagnant water would provide a breeding area for mosquitoes. Mosquitoes would bring about a concern for the spread of West Nile virus.

b. Water Resources: Maintenance of the pond, restroom facilities, and landscaping requires constant use of water resources. The pond contains very porous soils, which cause the pond to lose water through leakage and evaporation at a very high rate.

c. Hazardous Waste and Solid Waste Recyclables: Maintenance activities on the wells and pumps may generate hazardous or solid waste. Any parts removed from the water well or pump containing ACM or LBP would be managed as a HW. Any parts removed not containing ACM or LBP would be managed as a recyclable scrap metal.

d. Biological Resources: Species of special concern have been documented as using the pond for roosting and nesting. Drastic changes to nesting habitat during the current nesting

season (ending in August) may cause nest or young abandonment, or reduction of food availability, which could lower hatchling success and survival. Lack of aeration in the pond would cause fish kills, algae growth, and mosquito breeding. This would cause a concern for West Nile virus. Wildlife that uses the park and pond as a food and water source may begin wandering into the Main Base area if that source is depleted.

e. Energy Resources: A great deal of energy is consumed by pumping water from a well into the pond. The soils that comprise the pond impoundment are very porous, requiring continued inefficient use of energy resources to keep the water level up.

f. Socioeconomics: Branch Memorial Park and Pond provide base personnel with a quiet, private, and safe recreation area. Base personnel can take advantage of pavilions, picnic tables, barbeque grills, playground equipment, grassy open areas, nature trails with wildflowers, bird watching, fishing (on the bank, in a boat, or with waders), and restroom facilities. They also have the luxury of purchasing fishing licenses for one-third the cost of state fishing licenses. This area is also used annually for the Fourth of July Fishing Derby; Cub, Boy, and Girl Scout activities; and occasionally for private or squadron gatherings.

1.3.2 Issues and Concerns Eliminated from Detailed Study

The following issues and concerns were initially considered, but subsequently eliminated from detailed study in this EA.

a. Land Use: There would be no change in the designation or use of the property in the immediate future. There is a potential that if the park or pond were closed, the land could be designated for a different use. Significant changes to the area would require the completion of an environmental impact analysis.

b. Air Quality: Air emission calculations were found to be below *de minimis* levels for criteria pollutant emissions in the Kern County Air Pollution Control District. The air emission conformity letter is found in Appendix A of this report.

c. Hazardous Materials: Hazardous materials would not be used in any of the action alternatives.

d. Cultural Resources: There are no culturally sensitive sites near the project area.

e. Geology and Soils: Action alternatives are not located within Environmental Restoration Program Sites or a seismically-active fault area.

f. Environmental Justice: The action alternatives would have no substantial, disproportionate impact to minority or low-income populations and children.

1.4 Regulatory Requirements, Permits, and Approvals

There are various regulatory requirements, permits, and approvals that may be required for the implementation of the action alternatives.

1.4.1 Regulatory Requirements

Executive Order (EO) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (2007) requires federal agencies to conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically, and fiscally sound, integrated, continuously improving, efficient, and sustainable manner. Sustainable is defined by EO 13423 as a means to create and maintain conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic, and other requirements of present and future generations of Americans.

1.4.2 Permits and Approvals

The proponent/contractor performing maintenance and repair activities is responsible for obtaining the relevant permits and accomplishing any required notifications. Environmental permitting requirements are coordinated through 95 ABW Environmental Management Directorate (EM). The Civil Engineering project manager would assist the contractor in completing all required permits and approvals prior to maintenance activities. The following permits and notifications have been identified as potential requirements for the maintenance and repair activities. Due to changes that occur regarding permit and notification requirements, the following list may not be accurate or all inclusive.

a. Air quality operational permits from the applicable air district may be required for equipment (e.g., generators, air compressors, or welders) equal to or greater than 50 brake horsepower (bhp). All portable engines and equipment with a rating of 50 bhp and greater must either have an air permit or be registered under the California Air Resources Board Statewide Portable Equipment Registration Program. Operational air permits must be obtained prior to bringing equipment on base.

b. All in-use off-road diesel vehicles (e.g., loaders, crawler tractors, skid steers, backhoes, and forklifts) 25 horsepower or greater have to meet fleet requirements, which require fleets to apply exhaust retrofits that capture pollutants before they are emitted into the air.

c. Air quality exemptions or recordkeeping may be required for equipment.

d. Notification to the receiving air district is required when equipment is relocated within air districts.

e. The potential to encounter ACM or LBP brings about possible survey, abatement, and/or disposal requirements.

f. Signed HW disposal manifests shall be required for all HW that may be generated on this project to include, but not limited to, ACM; lead-, mercury-, chromium-, other heavy metal-based paints; and/or polychlorinated biphenyls-containing wastes prior to transportation for off-site disposal to an Environmental Protection Agency-approved landfill.

g. If fill material is obtained from an approved on-base borrow pit, a desert tortoise presurvey must be completed by contacting the Natural Resources contractor at (661) 277-1401 at least 3 days prior.

h. The removal of surrounding trees should occur outside of the bird nesting season (February to August). If tree removal cannot occur outside of the nesting season and an active nest is present, a Depredation Permit from the United States Fish and Wildlife Service (USFWS) must be obtained prior to commencement of activities.

i. Trenching 12 inches or more below the ground surface would require an Air Force Flight Test Center Information Management Tool 5926, *Edwards AFB Civil Engineering Work Clearance Request* (Dig Permit).

j. An Air Force Form 592, *USAF Welding, Cutting, and Brazing Permit* (Hot Work Permit), is required for any project activities involving welding, torching, cutting, or brazing.

1.5 Future Use of this Document

Future proposed actions documented on an Air Force Form 813, *Request for Environmental Impact Analysis*, would be reviewed and evaluated to determine if the action falls within the scope of this EA. In the event that a future action is determined to fall within the scope of this EA, and no new environmental impacts would occur as a result of the action, a categorical exclusion (CATEX) could be prepared. A CATEX could also be prepared for future actions that would result in additional minor impacts not discussed in this EA, if impacts can be reduced to insignificant levels through minimization measures. In some cases, a supplement to this EA might be required. In that case, a new Finding of No Significant Impact would be required. Future actions that are found to result in significant impacts to the environment that cannot be minimized to a level of insignificance would need to be addressed in an Environmental Impact Statement and a Record of Decision.

1.6 Organization of this Environmental Assessment

This document consists of six sections and four appendices which are summarized as follows:

a. Section 1.0, Introduction: Describes the purpose of and need for the action alternatives, location of alternatives, issues and concerns, regulatory requirements and approvals, and future use of this document;

b. Section 2.0, Description of the Proposed Action and Alternatives: Describes the management alternatives being compared by the decision maker;

c. Section 3.0, Affected Environment: Describes the existing environment at Edwards AFB that may be affected by the action alternatives;

d. Section 4.0, Environmental Consequences: Describes the environmental consequences that could result from implementation of each of the project alternatives;

e. Section 5.0, References/Bibliography: Provides a list of the references cited and applicable to issues discussed throughout this document;

f. Section 6.0, List of Preparer and Reviewers: Lists the persons who were primarily responsible for preparing and reviewing this document;

g. Appendix A, Air Emission Conformity Letter;

h. Appendix B, Regulatory Requirements and Guidance;

i. Appendix C, Additional Affected Environment Data−Biological Resources; and

j. Appendix D, Public Comments and Concerns.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 Alternative A–Discontinue Diverting Water, Continue Maintaining Picnic Area and Restrooms, and Repair Well with End of Fiscal Year Funds (Proposed Action)

Civil Engineering proposes to discontinue diverting water intended for the restroom facilities and inspect, clean, and repair Water Well C-1 using funds included in a $1.6 million basewide well-repair project proposed to be funded by AFMC at the end of FY 2008. While the water level is low, EM would remove some of the vegetation in the pond to improve the fish habitat and create additional fishing locations. Following completion of the needed repairs, the South Base water tank would be used to supply the restrooms and irrigation system and Water Well C-1 would supply the pond.

In the long term, Alternative A would require maintenance of the water supply system as needed, continuous use of water resources, biannual fish stocking, maintenance of the restrooms and irrigation system, and associated funding resources.

2.2 Alternative B–Discontinue Diverting Water to the Pond and Maintenance of Park (Close Branch Memorial Park and Pond)

This alternative would completely close the park and pond by not supplying water to the pond, restrooms, or irrigation system. The area would not be maintained by any organization. The pond would be left to dry up. Civil Engineering has suggested that a basewide 'fish off' occur in an attempt to remove all of the fish from the pond before they die.

The pond may be filled in with dirt and revegetated; or a perimeter fence may be installed to allow for future reopening. Tree removal may be required to eliminate possible fueling sources for wildfires. It is estimated that the pond would dry up in 5 years with implementation of this alternative.

Alternative B may require provision of fill material, revegetation services, fencing, and associated funding resources. If the pond is ever reopened in the future, the long-term requirements for Alternative B may include reconfiguring the pond bottom, refilling the pond with the full water capacity, stocking the pond, refurbishing the park facilities, notifying the community of the reopening, basically reversing anything that results after the closure, and associated funding resources.

2.3 Alternative C–Use Facility Operations Supply Funds to Repair Pump as Soon as Possible and Restore Site to Full Operation

This alternative would require the use of Facility Operations supply funds to repair the pump for Water Well C-1 as soon as possible to restore Branch Memorial Park and Pond to its full operation. Following completion of the needed repairs, the South Base water tank would be used to supply the restrooms and irrigation system and Water Well C-1 would supply the pond. Water Well C-1 could still be inspected, cleaned, and repaired if necessary with funds included in the $1.6 million basewide well repair project.

Alternative C would require immediate use of Facility Operations supply funds. In the long term, this alternative would require maintenance of the water supply system as needed, continuous use of water resources, biannual fish stocking, maintenance of restrooms and irrigation system, and associated funding resources.

2.4 Alternative D–Rotate Water Outages between Pond and Restrooms, Increase Operational Oversight to Avoid Fish Kills and Unsanitary Restrooms, and Repair Well with End of Fiscal Year Funds

This alternative would be an attempt to provide water from the South Base water tank to keep the pond and restroom facilities in operation simultaneously. This alternative would require an increase in operational oversight by maintenance personnel to try and avoid fish kills and unsanitary restrooms. Funds included in the $1.6 million basewide well-repair project would be used to inspect, clean, and repair Water Well C-1. Following completion of the needed repairs, the South Base water tank would be used to supply the restrooms and irrigation system and Water Well C-1 would supply the pond.

Alternative D would require an increase in operational oversight by maintenance personnel until Water Well C-1 is repaired. In the long term, this alternative would require maintenance of the water supply system as needed, continuous use of water resources, biannual fish stocking, and associated funding resources.

2.5 Alternative E–Close Restroom Facilities, Divert Water to the Pond, Provide Portable Toilets, and Manually Water Landscaping

This alternative is the same as the No Action Alternative except that the landscaping would be maintained manually and the pump for Water Well C-1 would not be repaired at the end of the fiscal year. A water truck with a hose attachment would be used to maintain the landscaping at Branch Memorial Park.

The water supplied by the South Base water tank would be solely diverted to the pond. Due to the lack of water pressure that is needed to maintain the entire area, the restroom facilities would be made unavailable and portable toilets would be provided.

It is estimated that the pond would dry up in 5-6 years with the implementation of this alternative.

In the long term, Alternative E would require the provision of portable toilets, manual landscaping personnel and equipment, maintenance of the water supply system as needed, continuous use of water resources, biannual fish stocking, and associated funding resources.

2.6 Alternative F–Rotate Water Outages between Pond and Irrigation System, Provide Portable Toilets, and Repair Well with End of Fiscal Year Funds (No Action Alternative)

Currently, water that is usually supplied to the restroom facilities and irrigation system at Branch Memorial Park is being diverted to the pond. The water supply to the pond is occasionally stopped so pressure can build up in the lines for use of the irrigation system. Portable toilets are being supplied since there is not enough water pressure to operate the restroom facilities. Water Well C-1 is scheduled to be repaired in the basewide well-repair project at the end of FY 2008. Following completion of the needed repairs, the South Base water tank would be used to supply the restrooms and irrigation system and Water Well C-1 would supply the pond. This is considered the No Action Alternative.

Alternative F would require provision of portable toilets for a limited time. In the long term, this alternative would require maintenance of the water supply system as needed, continuous use of water resources, biannual fish stocking, and associated funding resources.

2.7 Criteria for Reasonable Alternatives and Alternatives Eliminated

"Reasonable alternatives are those that meet the underlying purpose and need for the proposed action and that would cause a reasonable person to inquire further before choosing a particular course of action" (32 CFR 989.8[b]). The underlying purpose and need for the project alternatives can be found in Section 1.1 of this document.

All reasonable alternatives were carried through this EA. No alternatives were eliminated from consideration.

2.8 Comparison of Alternatives and Associated Environmental Impacts

Table 1 presents a comparison of the potential environmental impacts that may result from the implementation of each of the alternatives.

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Table 1. Summary of Potential Environmental Impacts from Alternatives

Environmental Issue	Alternative A Discontinue Diverting Water, Continue Maintaining Picnic Area and Restrooms, and Repair Well with End of Fiscal Year Funds (Proposed Action)	Alternative B Discontinue Diverting Water to Pond and Park (Closure of Branch Memorial Park and Pond)	Alternative C Use Facility Operations Supply Funds to Repair Pump as Soon as Possible and Restore Site to Full Operation	Alternative D Rotate Water Outages between Pond and Restrooms, Increase Operational Oversight to Avoid Fish Kills and Unsanitary Restrooms, and Repair Well with End of Fiscal Year Funds	Alternative E Close Restroom Facilities, Divert Water to the Pond, Provide Portable Toilets, and Manually Water Landscaping	Alternative F Rotate Water Outages between Pond and Irrigation System, Provide Portable Toilets, and Repair Well with End of Fiscal Year Funds (No Action Alternative)
Safety and Occupational Health						
Recreational use hazards	Temporary concern–Banks would erode, becoming unstable and steep prior to completion of repairs and the water level rising up to a normal depth. Would be a slip-and-fall risk to personnel on the banks. No significant adverse impacts are anticipated.[1]	Banks would erode over time becoming unstable and steep. Would be a slip-and-fall risk to personnel on the banks. No significant adverse impacts are anticipated.[1]	Temporary concern–Banks would erode becoming unstable and steep prior to completion of repairs and the water level rising up to a normal depth. Would be a slip-and-fall risk to personnel on the banks. No significant adverse impacts are anticipated.[1]	Temporary concern–Banks would erode becoming unstable and steep prior to completion of repairs and the water level rising up to a normal depth. Would be a slip-and-fall risk to personnel on the banks. No significant adverse impacts are anticipated.[1]	Banks would erode over time becoming unstable and steep. Would be a slip-and-fall risk to personnel on the banks. No significant adverse impacts are anticipated.[1]	Temporary concern–Banks would erode becoming unstable and steep prior to completion of repairs and the water level rising up to a normal depth. Would be a slip-and-fall risk to personnel on the banks. No significant adverse impacts are anticipated.[1]
Exposure hazards	Temporary concern–Maintenance personnel could be exposed to increased noise levels, asbestos-containing materials (ACM) or lead-based paint (LBP) on water-well and pump parts, conditions that cause heat stress or hypothermia, or venomous snake or spider bites. No significant adverse impacts are anticipated.[1]	Maintenance activities are not included.	Temporary concern–Maintenance personnel could be exposed to increased noise levels, ACM or LBP on water-well and pump parts, conditions that cause heat stress or hypothermia, or venomous snake or spider bites. No significant adverse impacts are anticipated.[1]	Temporary concern–Maintenance personnel could be exposed to increased noise levels, ACM or LBP on water-well and pump parts, conditions that cause heat stress or hypothermia, or venomous snake or spider bites. No significant adverse impacts are anticipated.[1]	Maintenance activities are not included.	Temporary concern–Maintenance personnel could be exposed to increased noise levels, ACM or LBP on water-well and pump parts, conditions that cause heat stress or hypothermia, or venomous snake or spider bites. No significant adverse impacts are anticipated.[1]
West Nile virus	Temporary concern–Lack of pond aeration would result in an increase in stagnant water available for mosquitoes to breed. This would cause a concern for the spread of West Nile virus to animals and humans. No significant adverse impacts are anticipated.[1]	Lack of pond aeration would result in an increase in stagnant water available for mosquitoes to breed. This would cause a concern for the spread of West Nile virus to animals and humans. No significant adverse impacts are anticipated.[1]	Temporary concern–Lack of pond aeration would result in an increase in stagnant water available for mosquitoes to breed. This would cause a concern for the spread of West Nile virus to animals and humans. No significant adverse impacts are anticipated.[1]	Temporary concern–Lack of pond aeration would result in an increase in stagnant water available for mosquitoes to breed. This would cause a concern for the spread of West Nile virus to animals and humans. No significant adverse impacts are anticipated.[1]	Lack of pond aeration would result in an increase in stagnant water available for mosquitoes to breed. This would cause a concern for the spread of West Nile virus to animals and humans. No significant adverse impacts are anticipated.[1]	Temporary concern–Prior to completion of well repairs, the lack of pond aeration would result in an increase in stagnant water available for mosquitoes to breed. This would cause a concern for the spread of West Nile virus to animals and humans.
Wildfire hazards	Water Well C-1 would be repaired returning the area to original conditions and eliminating the concern of a wildfire fueling source.	After the pond completely dries up, the water source used by local trees would be eliminated and the trees would eventually dry up. This would result in available fueling sources for wildfires. No significant adverse impacts are anticipated.[1]	Water Well C-1 would be repaired returning the area to original conditions and eliminating the concern of a wildfire fueling source.	Water Well C-1 would be repaired returning the area to original conditions and eliminating the concern of a wildfire fueling source.	After the pond completely dries up, the water source used by local trees would be eliminated and the trees would eventually dry up. This would result in available fueling sources for wildfires. No significant adverse impacts are anticipated.[1]	Water Well C-1 would be repaired returning the area to original conditions and eliminating the concern of a wildfire fueling source.

Table 1. Summary of Potential Environmental Impacts from Alternatives (Continued)

Environmental Issue	Alternative A Discontinue Diverting Water, Continue Maintaining Picnic Area and Restrooms, and Repair Well with End of Fiscal Year Funds (Proposed Action)	Alternative B Discontinue Diverting Water to Pond and Park (Closure of Branch Memorial Park and Pond)	Alternative C Use Facility Operations Supply Funds to Repair Pump as Soon as Possible and Restore Site to Full Operation	Alternative D Rotate Water Outages between Pond and Restrooms, Increase Operational Oversight to Avoid Fish Kills and Unsanitary Restrooms, and Repair Well with End of Fiscal Year Funds	Alternative E Close Restroom Facilities, Divert Water to the Pond, Provide Portable Toilets, and Manually Water Landscaping	Alternative F Rotate Water Outages between Pond and Irrigation System, Provide Portable Toilets, and Repair Well with End of Fiscal Year Funds (No Action Alternative)
Water Resources						
Consumption of water resources	Immediate elimination of a constant water supply being delivered to the pond, but would continue supplying water to the park for use of the irrigation system (approximately 1.5 million gallons) and restrooms. After repairs are made to Water Well C-1, approximately 100 million gallons of water per year would be delivered to the pond. No significant adverse impacts are anticipated.[1]	Water resources would not be consumed. Water currently in the pond would seep into the soil and recharge the upper aquifer. This alternative would conserve water resources.	Immediate resumption of Water Well C-1 delivering approximately 100 million gallons of water per year to the pond and the South Base water tank delivering water to the restrooms (approximately 1.5 million gallons) and irrigation system at the park. No significant adverse impacts are anticipated.[1]	Continued diversion of water to the pond from the South Base water tank, but also rotated periodically for use of the restrooms. Also includes the eventual repair of Water Well C-1, which would return both the park and pond to previous conditions. No significant adverse impacts are anticipated.[1]	Continued diversion of water to the pond from the South Base water tank. The landscaping would be watered manually with the use of a water truck (estimated at approximately 1.5 million gallons). The water source to the pond could be turned off in approximately 5-6 years since the pond would be dry or nearly dry. No significant adverse impacts are anticipated.[1]	Continued diversion of water to the pond from the South Base water tank, but also rotated periodically for use of the irrigation system. Also includes the eventual repair of Water Well C-1, which would return both the park and pond to previous conditions. No significant adverse impacts are anticipated.[1]
Hazardous Waste and Solid Waste Recyclables						
Generation of hazardous waste (HW)	Temporary concern–Maintenance activities may result in the removal of parts containing ACM or LBP that would be considered HW. No significant adverse impacts are anticipated.[1]	Maintenance activities are not included.	Temporary concern–Maintenance activities may result in the removal of parts containing ACM or LBP that would be considered hazardous wastes. No significant adverse impacts are anticipated.[1]	Temporary concern–Maintenance activities may result in the removal of parts containing ACM or LBP that would be considered HW. No significant adverse impacts are anticipated.[1]	Maintenance activities are not included.	Temporary concern–Maintenance activities may result in the removal of parts containing ACM or LBP that would be considered HW. No significant adverse impacts are anticipated.[1]
Generation of Solid Waste	Temporary concern–Maintenance activities may result in the removal of parts that would be considered solid waste recyclables. No significant adverse impacts are anticipated.[1]	Maintenance activities are not included.	Temporary concern–Maintenance activities may result in the removal of parts that would be considered solid waste recyclables. No significant adverse impacts are anticipated.[1]	Temporary concern–Maintenance activities may result in the removal of parts that would be considered solid waste recyclables No significant adverse impacts are anticipated.[1]	Maintenance activities are not included.	Temporary concern–Maintenance activities may result in the removal of parts that would be considered solid waste recyclables. No significant adverse impacts are anticipated.[1]
Biological Resources						
Wildlife and habitat	Temporary concern–Reduction in water level may result in wildlife wandering into the Main Base area in search of food and water. If repairs are not completed by the next migrating season, bird species would have to find an alternate location to forage and nest. No significant adverse impacts are anticipated.[1]	Reduction of the water level may result in wildlife wandering into the Main Base area in search of food and water. During future migrating seasons, bird species would have to find an alternate location to forage and nest. No significant adverse impacts are anticipated.[1]	Temporary concern-Reduction in water level may result in wildlife wandering into the Main Base area in search of food and water No significant adverse impacts are anticipated.[1]	Temporary concern–Reduction in water level may result in wildlife wandering into the Main Base area in search of food and water. If repairs are not completed by the next migrating season, bird species would have to find an alternate location to forage and nest. No significant adverse impacts are anticipated.[1]	Reduction of the water level may result in wildlife wandering into the Main Base area in search of food and water. During future migrating seasons, bird species would have to find an alternate location to forage and nest. No significant adverse impacts are anticipated.[1]	Temporary concern–Reduction in water level may result in wildlife wandering into the Main Base area in search of food and water. If repairs are not completed by the next migrating season, bird species would have to find an alternate location to forage and nest. No significant adverse impacts are anticipated.[1]

Table 1. Summary of Potential Environmental Impacts from Alternatives (Continued)

Environmental Issue	Alternative A Discontinue Diverting Water, Continue Maintaining Picnic Area and Restrooms, and Repair Well with End of Fiscal Year Funds (Proposed Action)	Alternative B Discontinue Diverting Water to Pond and Park (Closure of Branch Memorial Park and Pond)	Alternative C Use Facility Operations Supply Funds to Repair Pump as Soon as Possible and Restore Site to Full Operation	Alternative E Rotate Water Outages between Pond and Restrooms, Increase Operational Oversight to Avoid Fish Kills and Unsanitary Restrooms, and Repair Well with End of Fiscal Year Funds	Alternative E Close Restroom Facilities, Divert Water to the Pond, Provide Portable Toilets, and Manually Water Landscaping	Alternative F Rotate Water Outages between Pond and Irrigation System, Provide Portable Toilets, and Repair Well with End of Fiscal Year Funds (No Action Alternative)
Energy Resources						
Use of energy resources	Discontinuing water diversion to the pond would conserve energy resources. After the water well is repaired, the pump would shut off automatically once the pond reaches a predetermined depth on the float indicator. This also helps conserve energy. Anytime the water level drops, energy resources would be consumed to operate the pump. No significant adverse impacts are anticipated.[1]	Energy resources would not be consumed. This alternative would conserve energy resources.	Discontinuing water diversion to the pond would conserve energy resources. After the water well is repaired, the pump would shut off automatically once the pond reaches a predetermined depth on the float indicator. This also helps conserve energy. Anytime the water level drops, energy resources would be consumed to operate the pump. No significant adverse impacts are anticipated.[1]	Less energy would be used while water is being diverted from the South Base water tank. After the water well is repaired, the pump would shut off automatically once the pond reaches a predetermined depth on the float indicator. This also helps conserve energy. Anytime the water level drops, energy resources would be consumed to operate the pump. No significant adverse impacts are anticipated.[1]	Less energy is used to supply the pond with water from the South Base water tank. However, due to the reduced amount of water being supplied, the pond would dry up in approximately 5-6 years. It would be a waste of energy resources and associated funding to choose this alternative since the closure alternative (Alternative B) would result in the pond drying up in 5 years. No significant adverse impacts are anticipated.[1]	Less energy would be used while water is being diverted from the South Base water tank. After the water well is repaired, the pump would shut off automatically once the pond reaches a predetermined depth on the float indicator. This also helps conserve energy. Anytime the water level drops, energy resources would be consumed to operate the pump. No significant adverse impacts are anticipated.[1]
Socioeconomics (Social Resources, Quality of Life, and Aesthetics)						
Recreational use of park	The park would continue to be maintained. There would be no impact as a result of this alternative.	The park area would not be maintained for use by base personnel. Private and organizational gatherings could not be held at the park in the future. This could be viewed as a significant effect to the local community.[1]	The park would continue to be maintained. There would be no impact as a result of this alternative.	The park area would continue to be maintained. Due to the reduced amount of water that would be supplied to the pond and rotating outages between the pond and restrooms, it would not be expected that the pond would last much longer. This could have a temporary negative effect on personnel who use the park area for bird watching. Normal activities would resume once the well repairs are complete.	The park area would continue to be maintained. Portable toilets would be provided for use by personnel as opposed to the restroom facilities. Due to the reduced amount of water that would be supplied to the pond, it would not be expected that the pond would last much longer. This could have an effect on personnel who use the park area for bird watching. This could be viewed as a significant effect to the local community.[1]	The park area would continue to be maintained. Portable toilets would be provided for use by personnel as opposed to the restroom facilities. Due to the reduced amount of water that would be supplied to the pond and rotating outages between the pond and restrooms, it would not be expected that the pond would last much longer. This could have a temporary negative effect on personnel who use the park area for bird watching. Normal activities would resume once the well repairs are complete.

Table 1. Summary of Potential Environmental Impacts from Alternatives (Concluded)

Environmental Issue	Alternative A Discontinue Diverting Water, Continue Maintaining Picnic Area and Restrooms, and Repair Well with End of Fiscal Year Funds (Proposed Action)	Alternative B Discontinue Diverting Water to Pond and Park (Closure of Branch Memorial Park and Pond)	Alternative C Use Facility Operations Supply Funds to Repair Pump as Soon as Possible and Restore Site to Full Operation	Alternative D Rotate Water Outages between Pond and Restrooms, Increase Operational Oversight to Avoid Fish Kills and Unsanitary Restrooms, and Repair Well with End of Fiscal Year Funds	Alternative E Close Restroom Facilities, Divert Water to the Pond, Provide Portable Toilets, and Manually Water Landscaping	Alternative F Rotate Water Outages between Pond and Irrigation System, Provide Portable Toilets, and Repair Well with End of Fiscal Year Funds (No Action Alternative)
Recreational use of pond	Temporary concern–Base personnel would be able to fish at the pond for a very short period of time after the water diversion is discontinued. It could take some time to complete the water-well repairs, and then additional time would be needed for the pond to fill up to an acceptable depth for fishing activities to resume. Base personnel may request a refund of the cost of their base fishing license since they would be unable to use the fishing pond for a period of time. Normal activities would resume once the well repairs are complete.	The pond would not be maintained for use by base personnel. Base personnel would have to use off-base locations for fishing activities. Base personnel may request a refund of the cost of their base fishing license since they would be unable to use the fishing pond. This could be viewed as a significant effect to the local community.[1]	The pond would take a little time to reach full capacity again, but normal activities could resume right away. There would be no impact as a result of this alternative.	Temporary concern–Due to the reduced amount of water that would be delivered by the South Base water tank, and rotating outages between the pond and restrooms, it would not be expected that the pond would last much longer. It could take some time to complete the water-well repairs, and then additional time would be needed for the pond to fill up to an acceptable depth for fishing activities to resume. Base personnel may request a refund of the cost of their base fishing license since they would be unable to use the fishing pond for a period of time. Normal activities would resume once the well repairs are complete.	Due to the reduced amount of water that would be supplied from the South Base water tank, it is estimated that the pond would only last for approximately 5-6 years. The fishing pond would no longer be available to base personnel. Base personnel may request a refund of the cost of their base fishing license since they would be unable to use the fishing pond. This could be viewed as a significant effect to the local community.[1]	Temporary concern–Due to the reduced amount of water that would be delivered by the South Base water tank, and rotating outages between the pond and irrigation system, it would not be expected that the pond would last much longer. It could take some time to complete the water-well repairs, and then additional time would be needed for the pond to fill up to an acceptable depth for fishing activities to resume. Base personnel may request a refund of the cost of their base fishing license since they would be unable to use the fishing pond for a period of time. Normal activities would resume once the well repairs are complete.

[1]Additional information on the level of significance and associated mitigation measures can be found in Section 4.0, Environmental Consequences of this report.

3.0 AFFECTED ENVIRONMENT

This section describes the relevant environmental resources at Edwards AFB that may be affected by the implementation of any of the six action alternatives.

3.1 Safety and Occupational Health

Safety and occupational health is defined as the protection of workers and the public from hazards. The total accident spectrum encompasses not only injury to personnel, but also damage or destruction of property or products. For worker safety, the boundary of the immediate work area defines the region of influence.

3.1.1 Recreational Use and Exposure Hazards

Recreational use personnel may be subject to slip-and-fall hazards. Due to the decrease in the water level at the pond and resulting erosion, the banks used by personnel to fish off of are very steep and unstable. Exposure hazards would result from hazardous noise levels, materials, and environmental conditions. Hazardous noise levels would be encountered during maintenance and repair activities due to the use of heavy machinery. Hazardous environmental conditions that may be experienced or encountered by maintenance personnel include heat stress or hypothermic conditions, and venomous snakes or spiders. Maintenance personnel may also encounter ACM or LBP if present on water-well parts.

3.1.1.1 Hazardous Noise

Noise is generated by pressure fluctuations in the air. The common measure of noise, or sound pressure level, is the decibel (dB) with zero being the threshold of audible sound to the human ear. Examples of sound pressure levels are 40 to 50 dB in an office setting, 70 dB inside a car at high speeds, 80 to 85 dB at a distance of 50 feet from highway truck traffic, and 100 dB inside or near an airport during aircraft flyovers.

Hazardous noise exposure occurs when workers are present in areas where ambient noise levels exceed 85 dB. Contractor personnel working on the installation completing maintenance and repair activities must comply with applicable federal and state regulations.

3.1.1.2 West Nile Virus

Without proper aeration, the pond will become stagnant, resulting in fish kills and the creation of suitable habitat for mosquito breeding. All mosquitoes require a water source to lay their eggs, which in the hottest part of summer can hatch into larvae within 1 week. Ecologically stable ponds do not normally produce problem mosquito populations due to fish predation and surface wave action which tend to kill mosquito larvae. Ponds stocked with fish, such as large-mouth bass and blue gill, will greatly reduce or eliminate mosquito larvae (*Management of Ponds, Wetlands, and Other Water Reservoirs to Minimize Mosquitoes,* Ladd and Frankenberger, 2007). Mosquitoes can carry West Nile virus, which can infect humans, avian species, and livestock. Disease transmission can result in death of wildlife and humans (Center for Disease Control website, 2008).

3.1.1.3 Wildfires

There are numerous trees in the area that rely on the pond and irrigation system. If these water sources were eliminated, the trees would die. This would be a concern for possible wildfires.

Edwards AFB does not have the topography, vegetation, or fire history to be considered a severe fire danger hazard. Wildfires have not caused any physical damage to real property (buildings and facilities) within South Base, North Base, Main Base, or Air Force Research Laboratory. However, the base does have frequent high winds from fall to spring and sparse dry brush (fuel for fires). Fire frequency has increased over the last 10 years. The desert environment has changed over the years in that the soil moisture is low, partially due to many years of drought and the drawdown of the aquifer to meet the needs of an increased population growth in the Antelope Valley. Land disturbance has encouraged exotic weedy species, adding biomass (more fuel) to the native habitat and increasing the potential for wildfires to spread more rapidly and increase in size.

The primary cause for wildland fires on base is lightning. Lightning is usually associated with later summer cyclonic storms, but such storms may occur from June to October. These

storms occur during short periods when gusty swirling winds come from any direction. The storms come from the east and occasionally from the south.

3.2 Water Resources

Water resources describe the quality, quantity, source, and use of water at Edwards AFB. This includes potable water, wastewater, and stormwater. The sources of water on Edwards AFB include groundwater, Antelope Valley-East Kern Water Agency water, treated wastewater (irrigation), and stormwater.

Branch Memorial Pond is normally supplied by Water Well C-1, a nonpotable water source. This well discharges exclusively to the pond. Water Well C-1 produces from the upper aquifer between intervals of 135 to 400 feet below the ground surface (bgs). Total depth of the well is 400 feet bgs. The upper aquifer is recharged locally through leakage from the pond (estimated at 20 percent), and regionally from rainfall, melting snowpack on nearby mountains, ranch irrigation systems, discharges from wastewater treatment plants, and stormwater from urban areas. The pump capacity for Water Well C-1 is approximately 238 gallons per minute (gpm). Between 2003 and 2007, an average of 102,877,000 gallons of water per year was discharged into the pond.

Water Well S-6, a nonpotable water source, discharges into an aboveground storage tank (AST) on South Base at a pump capacity of 1,832 gpm. The well produces water from the middle aquifer between intervals of 300 to 690 feet bgs. Total depth of the well is 728 feet bgs. Water supply lines run from the AST to the runway replacement project site to control dust, then to the South Base Guard Station for the restroom facilities, and on to Branch Memorial Park for the restroom facilities and irrigation purposes. The irrigation system uses approximately 1.5 million gallons of water per year. Currently, the water normally sent to the restroom facilities and irrigation system is being diverted to supply the pond and rerouted back during the irrigation cycles. The water tank is providing approximately 25 gpm of water to the pond.

3.3 Hazardous Waste and Solid Waste Recyclables

Hazardous wastes are those substances that have been abandoned, recycled, or are inherently waste-like and (because of their quantity, concentration, or characteristics) have the potential to cause an increase in mortality or serious irreversible illness, or pose a substantial hazard to human health and/or the environment if improperly treated, stored, transported, and/or discarded.

The state of California defines asbestos-containing construction material as any manufactured construction material that contains more than 0.1 percent asbestos by weight (Title 8 California Code of Regulations § 1529, *Asbestos*). Asbestos is considered a HW by the state of California and must be disposed of in a United States Environmental Protection Agency-approved landfill.

Asbestos-containing materials and LBP could be present on water-well parts and equipment. Any parts contaminated with asbestos or LBP would be considered HW and managed in accordance with (IAW) HW guidelines.

Solid waste refers to nonhazardous garbage, refuse, and any other discarded solid material resulting from residential, commercial, and industrial activities or operations (22 CFR 261.2, *Definition of Solid Waste*). Solid waste can be classified as construction/demolition, nonhazardous recyclable, or nonhazardous nonrecyclable waste.

Water-well parts and equipment may be made strictly of metal, which is recycled on base. Scrap metal is recycled by the Edwards AFB Landfill and the funds are put back into the base recycling program.

3.4 Biological Resources

The plant and animal species that characterize the mesic areas on Edwards AFB occur in man-made ponds, on the lakebeds and playas, and in the housing areas. Branch Memorial Park and Pond is a mesic environment surrounded by playas and clay pans, within halophytic phase saltbush scrub habitat. Due to its location, size, and the plant and animal species present, the area can support a variety of biological resources. Branch Memorial Park and Pond provide important habitat for a number of biological resources including species that are considered sensitive. Because the area is within the Pacific Flyway, the location is an important stopover for migrating birds. The water, tree cover, and cattails also provide important nesting and foraging habitat for several species of overwintering and migratory birds. Bats migrating through the area would use the trees for roosting and the area for foraging on flying insects around the ponds.

Branch Memorial Park and Pond are also used as a food and water source for resident wildlife and may act as a buffer; reducing the amount of wildlife entering the Main Base areas in search of food and water.

The base manages species under consideration for listing under the state and federal Endangered Species Acts, as well as other species considered sensitive by various agencies. Although protection of nonlisted species is not mandatory on federal installations, management

of these species contributes to the overall maintenance of their natural populations and reduces the likelihood that these species would have to be given additional legislative protection in the future. Edwards AFB also manages nonfederally listed species through the use of general conservation measures in the *Integrated Natural Resources Management Plan for Edwards Air Force Base, California, AFFTC Plan 32-7064* (AFFTC, 2004).

Specific information on the existing biological resources at Branch Memorial Park and Pond can be found in Appendix C.

3.5 Energy Resources

3.5.1 Energy Conservation

The general policy of the Air Force regarding energy is: "Energy is essential to the Air Force's capability to maintain peacetime training, readiness, and credible deterrence; to provide quality of life; and to perform and sustain wartime operations. Energy is an integral part of the weapon system. The most fundamental Air Force energy policy goal is to assure energy support to the national security mission of the Air Force in a manner which emphasizes efficiency of use, effectiveness of costs, and independence from foreign sources for mission-essential operations" (*Edwards Air Force Base Energy Plan*, AFFTC, 1995b).

Consistent with federal law and Air Force policy, Edwards AFB has developed various programs and methods to reduce energy use. These include awareness and education programs (including standards for heating and cooling) and installation of energy management control systems for cooling, heating, and lighting. Utility meters and efficient fueling systems are being installed to heighten awareness of consumption. Energy reduction projects are on-going and include installation of swamp coolers, ceiling and wall insulation, double-pane windows, building foyers, and energy-efficient lighting tubes. The use of solar energy is also being used whenever possible with the installation of photovoltaic cells throughout the base. In addition, construction of a solar farm to supplement current and future electrical energy needs has been proposed.

3.5.2 Energy Consumption

Edwards AFB uses electricity, natural gas/propane, and other petroleum-based products (e.g., gasoline, jet fuel, and diesel) to operate facilities, vehicles, fueling equipment, and aircraft. The base electricity bill is approximately $20 million per year.

Water production cost for Water Well C-1 to supply Branch Memorial Pond is approximately $18,823 per year. Water production cost for Water Well S-6 to supply Branch Memorial Park's

irrigation system is approximately $74 per year. If Water Well S-6 was used to rotate water supply between the pond and restroom facilities or irrigation system, the total water production cost would be approximately $2,493 per year. Energy resources are constantly used when filling the pond due to the permeability of the soil.

It has been estimated that approximately 20 percent of the water in Branch Memorial Pond infiltrates back into the soil. The *Branch Memorial Park Pond Management Plan* (AFFTC, 1996) indicated that trees around the pond that require large amounts of water to survive should be removed to reduce the amount of water needed to maintain the pond. The objective of this plan was to develop a management plan that is based on water conservation principles while maintaining recreational and wildlife values.

3.6 Socioeconomics (Social Resources, Quality of Life, and Aesthetics)

3.6.1 Social Resources Available at Edwards AFB

Edwards AFB is the home station of approximately 2,000 military families (AFFTC, *Edwards Air Force Base Summary* [Blue Book], 2007). The base offers the following assets for enjoyment by these military families:

a. Bowling alley;
b. Skate park;
c. Jungle Zone–an indoor playground;
d. Off-road driving areas–for dirt-bike and four-wheel riding;
e. Swimming pools;
f. Museum;
g. Libraries;
h. Sports areas–basketball courts, soccer fields, and baseball fields;
i. Running tracks;
j. Gymnasiums;
k. Community parks; and
l. Fishing pond.

All other base personnel, including civilian and contractor employees, and military retirees are also able to use these areas. Base personnel would have to travel approximately 40 miles to reach Lancaster or Palmdale to enjoy these types of activities off base.

3.6.1.1 Off-Base Fishing Locations

Other fishing ponds within a 2-hour travel time from the base include Apollo Park Lake, Elizabeth Lake, and the California Aqueduct. From the base housing area, it would take approximately 40 minutes to drive to Apollo Park Lake, 65 minutes to Lake Elizabeth and Lake Hughes, and 55 minutes to the California Aqueduct.

Apollo Park Lake has three interconnected lakes totaling 26 acres. It is open from 0600 to sunset each day. The lakes are stocked with rainbow trout from winter through early spring and catfish during the summer months. There are also bluegill, largemouth bass, crappie, and carp in the lakes. Boats and float-tubes are not allowed at Apollo Park Lake. This lake is used by numerous people in the Antelope Valley region.

Elizabeth Lake consists of approximately 35 surface acres. The lake and picnic areas are open year round for day use only. Boats and float-tubing is permitted with the use of life vests. The lake is stocked with rainbow trout during the fall and spring months. There are also bass, crappie, catfish, and bluegill in the pond. Elizabeth Lake requires the purchase of a Southern California Adventure Pass to park at the site. Personnel are allowed 3 days free of charge per year. Annual passes cost $30 per year for one vehicle and $5 per year for an additional second vehicle. Day passes can be purchased for $5 per day.

The California Aqueduct is available for fishing year round. The aqueduct is full of bass and catfish. This area is not a safe place for children to fish. The water flows very quickly and the banks are very steep. There are many stories that have been posted about fishermen falling in the aqueduct while fishing. Safety ladders are placed every 500 feet to provide an escape route for those who fall in.

3.6.2 Branch Memorial Park and Pond Baseline Information

Branch Memorial Park and Pond were constructed in the 1960s as a fish pond for base personnel. In the 1970s the pond

was also used by the survival school for water training. The training activities are now held at an off-base location. The park and pond are open for use 24 hours a day. Many individuals view this area as a private recreation area that is a benefit to base personnel. The pond is stocked with 500 pounds of catfish and 100 pounds of largemouth bass twice a year. The fish are provided by EM at a cost of $3,000 per stocking. Personnel have also caught or seen bluegill, crappie, and carp in the pond. Branch Memorial Park and Pond are used almost daily by personnel. The location is used by personnel for private or organization parties, quiet dining, relaxing, bird watching, enjoying nature, looking at wild flowers, and fishing. The annual Fishing Derby is held at Branch Memorial Park and Pond on the Fourth of July. Approximately 60 participants are expected each year. In addition to the participants, parents, family members, and volunteers attend the Fishing Derby each year.

Branch Memorial Park can be rented out by base personnel for private use. The rental fee is $25 per day. Personnel receive exclusive use of the picnic and pavilion areas, grills, and playground equipment. When the park is not being rented out by private parties or squadrons, the recreation areas are open to all base personnel for their use.

Various groups on base regularly use the park and pond. The Edwards AFB Cub, Boy, and Girl Scouts use the areas for activities such as day camps, nature hikes, family picnics, educational activities, and earning their badges and belt loops including the fishing belt loop and pin.

The Electronic Warfare Group holds an annual squadron and family picnic at Branch Memorial Park and Pond. The 31st Test and Evaluation Squadron recently held a 'dining in' at the park.

Outdoor Recreation gets an average of 20 private-use bookings per year. This number does not technically include all squadron, organization, or private use gatherings. It is not required that Outdoor Recreation be contacted prior to use of the recreation areas.

Base personnel are allowed to fish at the pond if they have a fishing license from Outdoor Recreation. The cost for the fishing license is $12 per year. Base personnel can also purchase a day pass for guests they wish to take to the pond to fish. The cost for the day pass is $12 per day per guest. Approximately 170 base personnel purchased fishing licenses on base between April 2007 and 2008.

Outdoor Recreation also provides fishing boats that can be used at the pond for $35 per day. The boats do not require registration or tags since they are used on base property. Base personnel are also able to rent fishing poles for $2 per day. Base personnel are not required to obtain a state fishing license to use Branch Memorial Pond.

The landscaping is maintained by a local contractor and Outdoor Recreation staff is responsible for maintaining the restrooms and picnic areas.

3.6.2.1 Aesthetic and Symbolic Significance

Branch Memorial Park and Pond is enjoyed by many base personnel due to its secluded location and contrast setting. The area provides personnel with an 'escape' from a desert environment that lacks the lush shade trees and thriving fish pond found at Branch Memorial Park and Pond. The area is quiet even when traffic is traveling on Lancaster Boulevard.

Some base personnel also enjoy the symbolic significance provided by the pond. It was used in the 1960s to train pilots and other military personnel for water survival.

3.6.3 Base Personnel Concerns

Of the 170 people who purchased base fishing licenses in the past year, 81 of them were listed in the Global Address List. These 81 users were emailed to get data on their usage and any comments which they wanted to be considered during the decision making process. Several of the users forwarded the email onto other friends, colleagues, squadron commanders, and squadronwide distribution lists. Within 24 hours, 51 base personnel responded to the email with much concern and opposition for the possibility of losing the base fishing pond. A total of 69 responses were received.

Appendix D includes tables that summarize the e-mail responses received and other comments and concerns of base personnel.

3.6.4 State of California Fishing Fees

Base personnel are required to purchase state of California fishing licenses when fishing off-base. The state of California also requires fishing boats to be registered. The state of California charges are listed in Table 2.

Table 2. State of California Fishing Fees

Annual Sport Fishing Licenses (Valid 1 January through 31 December 2008)	**Fee**
Resident[1] Sport Fishing	$38.85
Nonresident Sport Fishing	$104.20
Short Term Sport Fishing Licenses (Valid January 1, 2008 through December 31, 2008)	**Fee**
1-day Sport Fishing License	$12.60
2-day Sport Fishing License	$19.45
10-day Nonresident Sport Fishing License	$38.85
New for 2008	**Fee**
Second Rod Stamp	$12.10
Commercial Boat Registration	**Fee**
Resident[1]–Initial registration	$9.00
Nonresident–Initial registration	$37.00
Renewal–every other year	$20.00

Note: Source: California Department of Fish and Game (CDFG) Habitat Conservation Branch website, April 2008

[1]Resident is defined as any person who has resided continuously in the state of California for 6 months or more immediately prior to the date of their application for a license or permit, any person on active military duty with the Armed Forces of the United States or auxiliary branch thereof, or any person enrolled in the Job Corps.

4.0 ENVIRONMENTAL CONSEQUENCES

This section includes a cumulative impact analysis of all the effects that could result from the implementation of the project alternatives. Regulatory requirements and guidance that may affect the project alternatives are presented in Appendix B of this document.

4.1 Safety and Occupational Health

4.1.1 Recreational Use Hazards

The banks of the pond would erode, becoming unstable and steep due to the reduction in the water level. This would be a slip-and-fall risk to personnel on the banks.

4.1.1.1 Affected Alternatives

Implementation of Alternatives A, C, D, or F would result in a temporary concern until the repairs have been completed and the water level rises up to a normal depth. Alternatives B and E do not include well and pump repairs, which means the banks would permanently be unstable and steep.

4.1.1.2 Significance and Mitigation Measures

No significant effect would result from the implementation of the management alternatives. According to the AFFTC Judge Advocate, a partially empty or empty pond would not be considered an 'attractive nuisance.' Implementation of Alternatives A, C, D, or F would result in a concern for slip-and-fall risks temporarily. Implementation of Alternatives B or E would result in a permanent concern. The AFFTC Ground Safety division should be contacted for a recommendation of acceptable mitigation actions that could be utilized to eliminate the concern of the steep banks. These actions may include sloping the banks, installing warning signs, fencing the area, or filling the pond once it is empty. No additional mitigation measures would be required.

4.1.2 Exposure Hazards

During maintenance and repair activities, personnel could be exposed to increased noise levels from the use of equipment such as generators, welders, and construction vehicles above Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) and Occupational Safety and Health Administration (OSHA) regulations. Personnel may also encounter ACM or LBP during the removal and repair of the water well parts. Personnel may be exposed to environmental conditions that could cause heat stress or hypothermia. Personnel may also be working in an area where venomous snakes or spiders dwell.

4.1.2.1 Affected Alternatives

Implementation of Alternatives A, C, D, or F would result in a temporary concern for maintenance personnel during repair activities. Alternatives B and E do not include repair activities, so there would not be a concern for exposure hazards to personnel.

4.1.2.2 Significance and Mitigation Measures

No significant effect would result from the implementation of the management alternatives. Implementation of Alternatives A, C, D, or F could expose maintenance personnel to environmental hazards, but only temporarily. Alternatives B and E do not include repairs. All applicable AFOSH, OSHA, and California OSHA regulations should be followed. No additional mitigation measures would be required.

4.1.3 West Nile Virus

The pond is normally supplied with water from Water Well C-1, which pumps water into the center of the pond providing proper aeration to all areas of the pond. During normal operation of the pond, the fish population is useful for keeping the mosquito population down. Water being diverted from the restrooms and irrigation system is delivered to the pond at the southwest corner. This has resulted in a lack of proper aeration in the other areas of the pond causing fish kills and algae growth. A lack of proper aeration of the pond water and decrease in fish population provides for a suitable breeding environment for mosquitoes. This brings about a concern for the spread of West Nile virus to animals and humans.

4.1.3.1 Affected Alternatives

Implementation of Alternatives A or B would include discontinuing water diversion to the pond immediately. This would result in a complete lack of aeration of the pond water. Implementation of Alternatives D, E, or F would include the continuation of water diversion from the South Base water tank, which would result in the water being aerated only on the southwest side of the pond. The water would continue to be stagnant in the other areas of the pond. Implementation of Alternatives A, D, or F would include the repair of Water Well C-1 at the end of FY 2008, which means that there would only be a lack of proper aeration temporarily. Implementation of Alternative C would include the immediate repairs of Water Well C-1 which would restore the normal level of aeration eliminating the concern of mosquitoes breeding and West Nile virus.

4.1.3.2 Significance and Mitigation Measures

No significant effect would result from the implementation of the management alternatives. Implementation of any of the alternatives other than Alternative C would result in a temporary or

long-term concern for mosquito breeding, which ultimately results in a concern for the spread of West Nile virus. The Installation Pest Control Manager should be contacted to identify acceptable actions that can be taken to eliminate or control mosquito breeding environments. These actions may include draining the pond, installation of traps, or spraying of chemical control products. The use, storage, and disposal of chemicals should be conducted IAW the Edwards Air Force Base Instruction 32-119, *Edwards Air Force Base Hazardous Materials Management Process* (2008) and *Hazardous Waste Management Plan Number 32-7042* (AFFTC, 1999). No additional mitigation measures would be required.

4.1.4 Wildfire Hazards

Several trees rely on the water in Branch Memorial Pond and from the irrigation system at Branch Memorial Park for survival. Elimination of these water sources could result in the trees drying up and eventually dying. This would generate available fueling sources for wildfires.

4.1.4.1 Affected Alternatives

Implementation of Alternatives B or E would result in the eventual complete loss of water in the pond since repairs would not be completed for Water Well C-1. It can be expected that the trees around the pond would eventually dry up and die becoming a fueling source for potential, future wildfires. Implementation of Alternative B would also result in the elimination of a water source for the trees at the park. It can also be expected that the trees at the park would eventually dry up and die becoming a fueling source for potential, future wildfires. Alternatives A, C, D, and F include repairs to Water Well C-1 which would eventually result in the water level being restored to a normal depth and continued maintenance of the park area.

4.1.4.2 Significance and Mitigation Measures

No significant effect would result from the implementation of the management alternatives. It is estimated that implementation of Alternative B would result in the complete loss of water in the pond to be approximately 5 years and for Alternative E approximately 5-6 years. Therefore, the trees in the area would take even longer to dry up and die. It is unknown how long it would

take the trees at the park to dry up and die if Alternative B is implemented. Alternatives A, C, D, and F include the immediate or eventual resumption of normal water supply levels for the trees at the pond and park. To eliminate the concern for wildfires, the base Fire Department should be consulted for acceptable measures that should be taken. This may include complete removal of the trees. A migratory bird nest presurvey should be scheduled with the Natural Resources contractor at least 3 days prior to tree removal. No additional mitigation measures would be required.

4.2 Water Resources

Continued management of Branch Memorial Park and Pond would result in the on-going use of groundwater resources. Water Well C-1 was constructed to strictly pump water to the pond. It was in operation for over 40 years prior to the pump failure in March 2008. The aquifer that it was pumping from was being recharged from the water leaking through the pond soil, other surface runoff in the vicinity, and possibly from groundwater in-flow from surrounding regions. Due to the type of soil in the pond and some of the trees surrounding the pond, it is estimated that approximately 20 percent of the water in the pond is lost due to evaporation and leakage. The South Base water tank has supplied the restrooms and irrigation system at the park for over 40 years.

4.2.1 Affected Alternatives

Implementation of Alternative A would immediately eliminate a constant water supply being delivered to the pond, but would continue supplying water to the park for use of the irrigation system (approximately 1.5 million gallons) and restrooms. After repairs are made to Water Well C-1, approximately 100 million gallons of water per year would be delivered to the pond. Implementation of Alternative B would not require the use of groundwater resources since this alternative would result in the closure of both the park and pond. Implementation of Alternative C would result in the immediate resumption of Water Well C-1 delivering approximately 100 million gallons of water per year to the pond and the South Base water tank delivering water to the restrooms (approximately 1.5 million gallons) and irrigation system at the

park. Implementation of Alternatives D, E, or F would result in the continued diversion of water to the pond. Alternatives D and F would also include the rotation of the water source between the pond and the restrooms, or irrigation system. These two alternatives would also include the eventual repairs of Water Well C-1, which would return both the park and pond to previous conditions. Alternative E would not include rotation of the water source to the restrooms or irrigation system. The landscaping would be watered manually with the use of a water truck. The water source to the pond could be turned off in approximately 5-6 years since the pond would be dry or nearly dry.

4.2.2 Significance and Mitigation Measures

No significant effect would result from the implementation of the management alternatives. Although implementation of Alternatives A, C, D, E, or F would result in the use of groundwater resources, the pond has been in full operation for over 40 years. The aquifers used to supply the restrooms, irrigation system, and pond are being recharged through leakage and surface runoff at a rate that has been able to fully maintain the needs at Branch Memorial Park and Pond. In an effort to reduce the amount of water lost at the pond, the trees in the area that require a large amount of water to survive could be removed. Implementation of Alternative B would result in a positive impact since the closure of the park and pond would eliminate the use of water resources. Since implementation of Alternative E would ultimately end up with the pond drying up within a year of the time it would dry up with the implementation of Alternative B, it would be a waste of water resources to implement Alternative E. No additional mitigation measures would be required.

4.3 Hazardous Waste

Without sampling the parts that may need to be replaced in Water Well C-1, it can only be assumed that there is a potential for the presence of ACM or LBP. Parts that are removed from the well for disposal containing ACM or LBP would be considered a HW and must be managed IAW HW regulations.

4.3.1 Affected Alternatives

Implementation of Alternatives A, C, D, or F may result in the generation of HW. This would be determined after repair activities are initiated and the parts are sampled for the presence of ACM and LBP. Alternatives B and E do not include repair activities, so there is no concern for the generation of HW.

4.3.2 Significance and Mitigation Measures

No significant effect would result from the implementation of the management alternatives. The amount of HW that could be generated with the implementation of Alternatives A, C, D, or F is very minor and would be a temporary concern. If the maintenance contractor is required to dispose of the HW off base, a manifest would be coordinated through EM which would ensure that proper management, transport, and disposal procedures were being followed. If the waste is managed through the base Hazardous Waste Support Facility, it would still follow the manifest procedures to ensure proper management, transport, and disposal. All applicable local, state, and federal guidance and regulations for the management of ACM or LBP must be followed. The Civil Engineering Environmental Office should be contacted for ACM and LBP sampling and associated management requirements. No additional mitigation measures would be required.

4.4 Solid Waste Recyclables

The recycling program on Edwards AFB includes the recycling of scrap metal. Parts removed from the well during repair activities that need to be disposed of would first be sampled for ACM and LBP. If the metal does not contain ACM or LBP, it should be included with the scrap metal at the base landfill and sold to a local metal recycler.

4.4.1 Affected Alternatives

Implementation of Alternatives A, C, D, or F may result in the generation of solid waste recyclables. This would be determined after repair activities are initiated and the parts are sampled for the presence of ACM and LBP. If the parts do not contain ACM or LBP, the parts should be included with the scrap metal at the landfill to be sold to a recycler. Alternatives B and E do not include repair activities, so there is no concern for the generation of solid waste.

4.4.2 Significance and Mitigation Measures

No significant effect would result from the implementation of the management alternatives. The amount of solid waste that could be generated with the implementation of Alternatives A, C, D, or F is very minor and would be a temporary concern. The base recycling program is already set up to manage scrap metal. Recycling the scrap metal generated from the repair activities would result in a positive impact since the base would receive additional funds to use in the recycling program from the resale. No additional mitigation measures would be required.

4.5 Biological Resources

The loss of suitable nesting and foraging habitat at Branch Memorial Park and Pond for migratory bird species during nesting season is the primary concern regarding biological resources. The pond has gradually lost water since the pump failure in

March. Migratory birds have been seen at the pond which means that it is currently able to sustain the needed nesting and foraging requirements of these species although the water level has dropped. This area is not a primary habitat for any of the migratory bird species of special concern. If the habitat degrades, the bird species would find an alternate nesting and foraging site. The migratory bird nesting season ends in August. Wildlife that uses the area for food and water may begin wandering into areas such as Main Base in search of these resources.

4.5.1 Affected Alternatives

Implementation of Alternatives A, C, D, or F would result in a temporary loss of water in the pond, but would ultimately restore both the park and pond to the original conditions after the well repairs are complete. There may be a temporary increase in the amount and types of animals that wander into the Main Base areas. Alternatives B and E would result in the eventual closure of the pond, which would cause wildlife to find a different location for foraging and nesting. Alternative E includes the continued maintenance of the park, but the food and water source provided by the pond would not be available to wildlife. This would most likely cause wildlife to find an alternate location for more suitable habitat.

4.5.2 Significance and Mitigation Measures

No significant effect would result from the implementation of the management alternatives. The migratory bird nesting season ends in August. The pond and park are currently providing the needed foraging and nesting habitat required for wildlife survival. If Alternative B or E was implemented, wildlife would find an alternate location to forage and nest next spring. If wildlife begins wandering into areas of the base usually occupied by people, base officials may have to address this if it becomes a concern. No additional mitigation measures would be required.

4.6 Energy Resources

Constant pumping of water to supply the park or pond requires the use of energy resources. Water Well C-1 is operated with the use of a water level float indicator which turns off the pump until the level in the pond drops. The South Base water tank, that usually supplies the park restrooms and irrigation system, has controls that can turn off the pump when the base sees fit to conserve the energy usage.

4.6.1 Affected Alternatives

Implementation of Alternatives A, C, D, E, or F would result in an on-going use of energy resources since a water supply would constantly be provided to either the park facilities or pond. Less energy is used to pump water from the South Base water tank than from Water Well C-1.

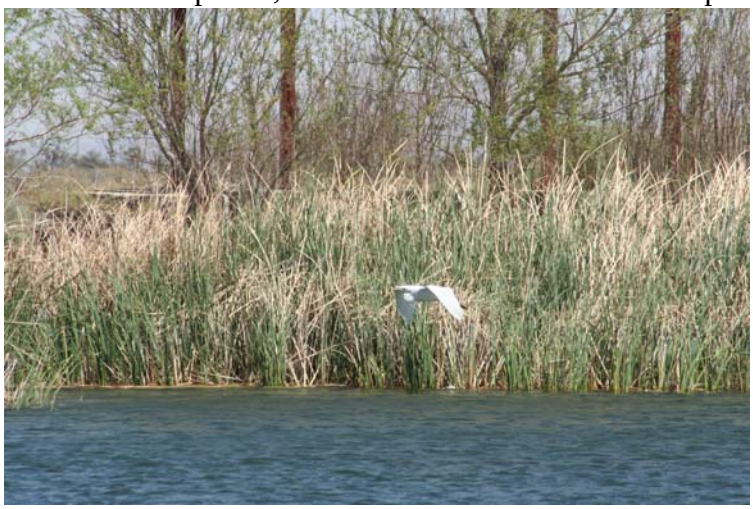
Alternative A would only use energy resources needed for the restrooms and irrigation system to stay in operation, but would ultimately use the energy resources needed for Water Well C-1 to supply the pond and the South Base water tank to continue supplying the restrooms and irrigation system after repairs are completed. Alternative C would immediately return the site to previous conditions which include Water Well C-1 supplying the pond and the South Base water tank supplying the restrooms and irrigation system. Alternative D would require the constant use of water being delivered from the South Base water tank until Water Well C-1 is repaired and the site is returned to normal conditions. Alternative E would result in the eventual closure of the pond, which would eliminate the use of energy resources after approximately 5 years, but would continue using energy resources to maintain the landscaping at the park. Alternative B would completely close the park and pond which would completely eliminate the use of energy resources.

4.6.2 Significance and Mitigation Measures

No significant effect would result from the implementation of the management alternatives. The Air Force is critically examining the amount of money spent on military bases for the use of energy. They are looking for areas that can be changed to help conserve energy resources. The energy resources consumed to maintain original conditions at Branch Memorial Park and Pond is minimal with respect to the overall base energy usage. Alternatives A, C, D, and F would result in energy resources being consumed the most. Alternative B would result in a positive effect on energy resources since none would be consumed. Alternative E would result in the biggest waste of energy resources since the pond would be empty in approximately 5 years anyway. Civil Engineering may need to research alternate energy saving techniques to minimize concerns if one of the alternatives to continue maintenance of the park and pond is chosen. The Leadership in Energy and Environmental Design (LEED) team could be consulted with to identify the best energy saving techniques that are available. No additional mitigation measures would be required.

4.7 Socioeconomics (Social Resources, Quality of Life, and Aesthetics)

The decision to either keep the park and pond open or close it would have the largest impact on social resources. If repairs are planned to be completed, the time frame in which those repairs are made would also have an impact on social resources. Base personnel may have to find an alternate place to fish, picnic, or bird watch whether temporary or permanent.



4.7.1 Affected Alternatives

Implementation of Alternatives A, C, D, or F would result in a temporary inability to fish at the pond due to the limited amount of space available to fish from

because of the excessive amount of cattails, steepness of the banks, and low water level. Implementation of Alternative F (No Action Alternative) would also result in the continued closure of the restrooms and provision of portable toilets. Each of these alternatives would ultimately result in the water pump being repaired. This would return both the park and pond to original conditions. Implementation of Alternative B would result in the closure of both the park and pond. Implementation of Alternative E would result in the continued inability for personnel to fish at the pond due to the limited amount of space available to fish from because of the excessive amount of cattails, steepness of the banks, and low water level. This alternative would ultimately end up in the closure of the pond with a possibility of keeping the park open for use.

4.7.2 Significance and Mitigation Measures

No significant effect would result from the implementation of Alternatives A, C, D, or F. There would be a temporary negative affect that would result from the implementation of Alternatives A, C, D, or F due to the immediate loss of a maintained fishing pond. Alternative F would also result in personnel having to use portable toilets since the restrooms would not be in operation. These alternatives would result in the eventual repair of Water Well C-1 returning both the park and pond to original conditions.

Implementation of Alternatives B or E could be viewed as a significant effect on social resources. An Environmental Impact Statement does not have to be prepared as a result of social effects (40 CFR 1508.14). The pond would be closed in approximately 5 years with the implementation of Alternative B and 5-6 years with the implementation of Alternative E. Alternative B would include the continued maintenance of the park area for use by base personnel. Base personnel would have to commute to off-base fishing locations to enjoy this type of outdoor activity. Base personnel who enjoyed the convenience of a local fishing pond would have to take on the extra costs of state fishing licenses, parking fees, and the cost of gas. Base personnel have also raised the concern of the safety of their children at off-base fishing locations. They feel that their children are safer fishing at Branch Memorial Pond and playing at the park while their parents are fishing. Base personnel feel that it would not be a favorite family past-time as it was at Branch Memorial Park and Pond. They have also indicated that many recreational activities have been taken away from them at Edwards AFB due to funding issues and Branch Memorial Park and Pond is one of the very few things left for their enjoyment. The park and pond would not be available for base personnel to escape the desert environment for this unique scenery and enjoy relaxing activities such as fishing and bird

watching. Base personnel with current base fishing licenses may request a refund of the cost paid since the pond would not be available for their use. The base fishing club, Scouts, and other organizations or squadrons would not have this area available for holding gatherings, hosting the annual fishing derby, or earning fishing badges. All public comments and concern received via electronic mail can be found in Appendix D.

4.8 Unavoidable Adverse Impacts

Unavoidable adverse impacts include those that are negative and occurring regardless of any identified minimization measures. Each of the following would be an unavoidable adverse impact:

a. The pond banks would pose a safety risk to personnel standing on them due to erosion and loss of water level (all alternatives). This would be temporary for Alternatives A, C, D, and F since the water level would eventually rise up to the normal level;

b. Maintenance personnel would be exposed to hazardous noise levels, materials, and environmental conditions. This would be a temporary concern for Alternatives A, C, D, and F since repairs would be completed fairly quickly;

c. Mosquitoes may begin to breed in the pond due to the lack of proper aeration and abundance of stagnant water (all alternatives). This would be a temporary concern for Alternatives A, C, D, and F since Water Well C-1 would be repaired and adequate aeration of the water would resume;

d. Dried up trees would become an available fueling source for wildfires (Alternatives B and E). This would not be a concern for the trees in the park if Alternative E is implemented since the park would continue to receive irrigation services;

e. Water resources would continue to be consumed (Alternatives A, C, D, E, and F);

f. Hazardous waste could be generated from repair activities (Alternatives A, C, D, and F). This would be a temporary concern;

g. Solid waste recyclables could be generated from repair activities (Alternatives A, C, D, and F). This would be a temporary concern;

h. Decrease in suitable foraging and nesting habitat for migratory bird species (Alternatives B and E). This would be a temporary concern for Alternatives A, C, D, and F since original conditions would be resumed after well repairs are complete;

i. Wildlife may begin entering Main Base areas in search of food and water sources (all alternatives). The repairs included in Alternatives A, C, D, and F would return the areas to normal conditions and may alleviate this issue if wildlife returned to use the park and pond for a food and water source;

j. Energy resources would be consumed (all alternatives except Alternative B). Less energy would be consumed when water is strictly diverted from the South Base water tank;

k. Base personnel would not have access to the permanent restroom facilities at the park and would have to use portable toilets (Alternatives E and F);

l. Base personnel may not be able to fish if the water level drops too low (all alternatives). This would be a temporary concern for Alternatives A, C, D, and F since repairs would be completed and original conditions would resume;

m. Base personnel would not have the park area available for use (Alternative B);

n. Base personnel would not be able to use this area to escape the desert environment and bird watch Alternatives B and E). The pond would last approximately 5-6 years with implementation of Alternative B. Personnel may be able to enjoy the area for a short period longer than with Alternative B; and

o. Funding would be required (all alternatives except Alternative B).

4.9 Short-Term Impacts or Uses versus Long-Term Productivity of the Environment

This section discusses the proposed alternatives' short-term use of man's environment and the maintenance and enhancement of long-term productivity. Short-term uses, and their effects, are those activities that would occur during maintenance and repair activities and future uses of Branch Memorial Park and Pond over a period typically less than 5 years. Long-term productivity includes impacts occurring over a period of more than 5 years.

4.9.1 Alternative A

4.9.1.1 Short-Term Impacts or Uses

Effects of short-term use that would occur during repair activities and future uses of Branch Memorial Park and Pond over the next 5 years include:

a. Temporary slip-and-fall risk to personnel standing on the bank of the pond due to erosion until repairs are completed and the water level rises up;

b. Maintenance personnel exposure to hazardous noise levels, materials, and environmental conditions during repair activities;

c. Potential for the spread of West Nile virus while the water is stagnant and not properly aerated;

d. Continued use of water resources. Initially, water diversion to the pond would be discontinued. This would only be for a short period of time;

e. Generation of HW and solid waste recyclables only during repair activities;

f. Wildlife may need to find an alternate location for food and water prior to completion of repairs;

g. Energy resources would be consumed to supply water to the park and pond. The consumption of energy resources would be less prior to the well repairs since water would not be diverted to the pond;

h. The area may not be suitable for bird watchers until repairs are made and the water level rises up;

i. Temporary reduction of fishing habitat available for use by base personnel prior to completion of well repairs and the water level rising up;

j. Temporarily, base personnel may need to drive to off-base locations to fish which also requires the purchase of a state fishing license and possible parking or access fees; and

k. Prior to the pond being returned to original conditions, base personnel may request a refund of the fishing license fee.

4.9.1.2 Long-Term Productivity

Alternative A would have the following effects on long-term productivity:

a. Wildlife would continue to benefit from having access to this desert oasis;

b. Base personnel would continue to benefit from having access to a private fishing pond and park to hold gatherings or simple family picnics; and

c. Base personnel would continue to benefit from low-cost fishing licenses.

4.9.2 Alternative B

4.9.2.1 Short-Term Impacts or Uses

Effects of short-term use that would occur during repair activities and future uses of Branch Memorial Park and Pond over the next 5 years include:

a. Slip-and-fall risk to personnel standing on the bank of the pond due to erosion;

b. Potential for the spread of West Nile virus if the water is left stagnant and not properly aerated;

c. Water resources would be conserved since both the park and pond would be closed;

d. Wildlife would need to find an alternate location for food and water;

e. Energy resources would be conserved since both the park and pond would be closed;

f. The area would not be suitable for bird watchers;

g. Base personnel would not have the park available for family or organizational gatherings;

h. Base personnel would need to drive to off-base locations to fish which also requires the purchase of a state fishing license and possible parking or access fees; and

i. Base personnel may request a refund of the fishing license fee.

4.9.2.2 Long-Term Productivity

Alternative B would have the following effects on long-term productivity:

a. Dried up trees would provide a fueling source for wildfires;

b. Water and energy resources would be conserved;

c. Wildlife would have to find alternate locations for a food and water source;

d. Base personnel would not have access to a private fishing pond or park to hold gatherings or simple family picnics; and

e. Base personnel would have to drive to off-base fishing locations, purchase state of California fishing licenses, and may also have to pay parking or access fees.

4.9.3 Alternative C

4.9.3.1 Short-Term Impacts or Uses

Effects of short-term use that would occur during repair activities and future uses of Branch Memorial Park and Pond over the next 5 years include:

a. Temporary slip-and-fall risk to personnel standing on the bank of the pond due to erosion until repairs are completed and the water level rises up;

b. Maintenance personnel exposure to hazardous noise levels, materials, and environmental conditions during repair activities;

c. Potential for the spread of West Nile virus while the water is stagnant and not properly aerated;

d. Continued use of water resources;

e. Generation of HW and solid waste recyclables only during repair activities;

f. Wildlife may need to find an alternate location for food and water prior to completion of repairs;

g. Energy resources would be consumed to supply water to the park and pond;

h. The area may not be suitable for bird watchers until repairs are made and the water level rises up;

i. Temporary reduction of fishing habitat available for use by base personnel prior to well repairs and the water level rising up;

j. Temporarily, base personnel may need to drive to off-base locations to fish which also requires the purchase of a state fishing license and possible parking or access fees; and

k. Prior to the pond being returned to original conditions, base personnel may request a refund of the fishing license fee.

4.9.3.2 Long-Term Productivity

Alternative C would have the following effects on long-term productivity:

a. Wildlife would continue to benefit from having access to this desert oasis;

b. Base personnel would continue to benefit from having access to a private fishing pond and park to hold gatherings or simple family picnics; and

c. Base personnel would continue to benefit from low-cost fishing licenses.

4.9.4 Alternative D

4.9.4.1 Short-Term Impacts or Uses

Effects of short-term use that would occur during repair activities and future uses of Branch Memorial Park and Pond over the next 5 years include:

a. Temporary slip-and-fall risk to personnel standing on the bank of the pond due to erosion until repairs are completed and the water level rises up;

b. Maintenance personnel exposure to hazardous noise levels, materials, and environmental conditions during repair activities;

c. Potential for the spread of West Nile virus while the water is stagnant and not properly aerated;

d. Continued use of water resources. Less water would be consumed prior to the completion of well repairs;

e. Generation of HW and solid waste recyclables only during repair activities;

f. Wildlife may need to find an alternate location for food and water prior to completion of repairs;

g. Energy resources would be consumed to supply water to the park and pond. The consumption of energy resources would be less prior to the well repairs since water would not be diverted to the pond;

h. The area may not be suitable for bird watchers until repairs are made and the water level rises up;

i. The park would continue to be available to base personnel for private or organizational gatherings;

j. Temporary reduction of fishing habitat available for use by base personnel prior to completion of well r and the water level rising up;

k. Temporarily, base personnel may need to drive to off-base locations to fish which also requires the purchase of a state fishing license and the cost of parking or access fees; and

l. Prior to the pond being returned to original conditions, base personnel may request a refund of the fishing license fee.

4.9.4.2 Long-Term Productivity

Alternative D would have the following effects on long-term productivity:

a. Wildlife would continue to benefit from having access to this desert oasis;

b. Base personnel would continue to benefit from having access to a private fishing pond and park to hold private or organizational gatherings; and

c. Base personnel would continue to benefit from low-cost fishing licenses.

4.9.5 Alternative E

4.9.5.1 Short-Term Impacts or Uses

Effects of short-term use that would occur during repair activities and future uses of Branch Memorial Park and Pond over the next 5 years include:

a. Slip-and-fall risk to personnel standing on the bank of the pond due to erosion;

b. Potential for the spread of West Nile virus if the water is left stagnant and not properly aerated;

c. Water resources would be consumed until the pond is eventually closed in approximately 5-6 years due to the inability of the South Base water tank to supply the pond with enough water to sustain it. If the park is kept open, water resources would be consumed during manual landscaping;

d. Wildlife may need to find an alternate location for food and water;

e. Energy resources would be consumed. After the pond is closed in approximately 5-6 years, less energy would be consumed to strictly maintain the park area;

f. The area may not be suitable for bird watchers due to the decrease in water level;

g. Base personnel would have the park available for private or organizational gatherings. Portable toilets would have to be used by personnel since the restrooms would be closed;

h. Base personnel would need to drive to off-base locations to fish which also requires the purchase of a state fishing license and possible parking or access fees; and

i. Base personnel may request a refund of the fishing license fee.

4.9.5.2 Long-Term Productivity

Alternative E would have the following effects on long-term productivity:

a. After the pond is closed, water and energy resources would be conserved except for the minor amount required to maintain the park landscaping;

b. Dried up trees would provide a fueling source for wildfires;

c. Wildlife would have to find alternate locations for a food and water source;

d. Base personnel would continue to

have the park available for private or organizational gatherings;

e. Base personnel would not have access to a private fishing pond; and

f. Base personnel would have to drive to off-base fishing locations, purchase state of California fishing licenses, and may also have to pay parking or access fees.

4.9.6 Alternative F (No Action Alternative)

4.9.6.1 Short-Term Impacts or Uses

Effects of short-term use that would occur during repair activities and future uses of Branch Memorial Park and Pond over the next 5 years include:

a. Temporary slip-and-fall risk to personnel standing on the bank of the pond due to erosion until repairs are completed and the water level rises up;

b. Maintenance personnel exposure to hazardous noise levels, materials, and environmental conditions during repair activities;

c. Potential for the spread of West Nile virus while the water is stagnant and not properly aerated;

d. Continued use of water resources. Less water would be consumed prior to the completion of well repairs;

e. Generation of HW and solid waste recyclables only during repair activities;

f. Wildlife may need to find an alternate location for food and water prior to completion of repairs;

g. Energy resources would be consumed to supply water to the park and pond. Less energy resources would be consumed prior to the completion of well repairs;

h. The area may not be suitable for bird watchers until repairs are made and the water level rises up;

i. The park would continue to be available to base personnel for private or organizational gatherings;

j. Temporary reduction of fishing habitat available for use by base personnel prior to completion of well repairs and the water level rising up;

k. Temporarily, base personnel may need to drive to off-base locations to fish which also requires the purchase of a state fishing license and the cost of parking or access fees; and

l. Prior to the pond being returned to original conditions, base personnel may request a refund of the fishing license fee.

4.9.6.2 Long-Term Productivity

Alternative F would have the following effects on long-term productivity:

a. Wildlife would continue to benefit from having access to this desert oasis;

b. Base personnel would continue to benefit from having access to a private fishing pond and park to hold private or organizational gatherings; and

c. Base personnel would continue to benefit from low-cost fishing licenses.

4.10 Irreversible and Irretrievable Commitments of Resources

Irreversible commitment of resources entails the consumption of or adverse effect upon resources that cannot be reversed or persists for an extremely long period of time. Irretrievable commitments of resources are those that are consumed or affected for a short period of time and that would be restored over time. Irreversible and irretrievable commitments of resources would result from each of the project alternatives. Short-term and long-term maintenance needs would require the commitment of labor, capital, and energy resources. Water resources would continuously be consumed. Water in the pond would either infiltrate back into the groundwater or be lost through evaporation or transpiration. If the pond was closed, there would be a loss of suitable foraging and nesting habitat for permanent and migratory wildlife species.

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FINAL

APPENDIX

September 2008

APPENDIX A
AIR EMISSION CONFORMITY LETTER

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 95TH AIR BASE WING (AFMC)
EDWARDS AIR FORCE BASE CALIFORNIA

SEP 19 2008

MEMORANDUM FOR RECORD

FROM: 95 ABW/EMC
5 E Popson Avenue
Edwards AFB, California 93524-1130

SUBJECT: *Clean Air Act* Conformity Statement for Control No. 08-0291, *Environmental Assessment for the Management Options for Branch Memorial Park and Pond, Edwards Air Force Base, California.*

1. The following finding is made on the need for a conformity statement under the *Clean Air Act* with respect to the Proposed Alternatives.

a. The Proposed Alternatives are located in the Kern County Air Pollution Control District (KCAPCD).

b. Under regulations promulgated pursuant to the *Clean Air Act*, Title 42 United States Code Part 7401-7671, the Proposed Alternatives are located in a Subpart 1 (Basic)/nonattainment area for ozone. The *de minimis* level set for KCAPCD for emissions of ozone precursor pollutants (volatile organic compounds [VOCs] or oxides of nitrogen [NO_x]), IAW Title 40 Code of Federal Regulation (CFR) Part 51.853/93.153 (b)(1) and KCAPCD Rule 210.7, *Federal General Conformity Rule,* is up to 100 tons per pollutant (VOCs or NO_x) per year, per action.

c. Under the federal *Clean Air Act*, the Proposed Alternatives are located in an unclassified/attainment area for particulate matter equal to or smaller than 10 microns (PM10). As such, the *de minimis* level set for PM10 emissions is up to 100 tons per year, per action.

d. It has been determined that this action qualifies for exemption under 40 CFR 51.853/93.153(c)(2)(iv). The exemption is as follows:

> Routine maintenance and repair activities, including repair and maintenance of administrative sites, roads, trails, and facilities.

2. The 1990 baseline planning values for KCAPCD are 14,965 tons per year (tpy) and 6,205 tpy of NO_x and VOCs, respectively. The 10-percent threshold values are 1,496.5 and 620.5 tpy of NO_x and VOCs, respectively. The relevant and applicable *de minimis* levels for criteria pollutant emissions in KCAPCD are already less than the corresponding 10-percent threshold values. The proposed action has emissions that are below the *de minimis* levels. Thus, the proposed action would not have a regionally significant impact.

3. Should you have any questions with respect to this finding, please direct them to John Vidic at (661) 277-9065.

HERBERT W. RORABACK, Chief
Environmental Quality Division

APPENDIX B
REGULATORY REQUIREMENTS/GUIDANCE

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1.0 REGULATORY REQUIREMENTS/GUIDANCE RELATED TO ENVIRONMENTAL ISSUES

1.1 Safety and Occupational Health

1.1.1 Regulatory Requirements/Guidance

The Occupational Safety and Health Administration (OSHA) developed standards to promote a safe working environment. These standards establish general environmental controls, including personal protective equipment, wherever necessary, because of hazards, processes, or the environment. Exposure limits for noise, and toxic and hazardous substances have been established. The *Occupational Safety and Health Act of 1970* (Public Law [PL] 91-596 amended 2004) also provides standards for emergency response to releases of hazardous chemicals and wastes.

Federal OSHA requirements and Air Force guidelines are the applicable regulatory requirements for activities conducted on the base. California (Cal)-OSHA regulations do not apply to Edwards Air Force Base (AFB) Department of Defense (DOD) workers (e. g., military and civilian). Contractors are responsible for meeting Cal-OSHA requirements. Statutory and regulatory requirements of the federal OSHA and Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Standards, which apply to the safety of workers at Edwards AFB, are enforced locally by Bioenvironmental Engineering, Ground Safety, Weapons Safety, and the Fire Department. Ground Safety is responsible for insuring that public access areas are safe for base personnel. In addition, operational safety is supervised by various offices for specific activities. The following guidance documents are enforced by the Air Force:

a. Air Force Instruction (AFI) 91-202, 1998, *Safety, The U.S. Air Force Mishap Prevention Program*;

b. AFI 91-301, 1996, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program*, and Air Force Materiel Command (AFMC) Supplement, 1997;

c. AFI 91-302, 1994, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Standards*;

d. AFOSH Standard 48-21, 1993, *Hazard Communication*;

e. AFOSH Standard 91-501, 2004, *Air Force Consolidated Occupational Safety Standard,* and AFMC Supplement 1, 2006;

f. Air Force Policy Directive (AFPD) 32-70, 1994, *Environmental Quality*;

g. AFPD 90-8, 2004, *Environment, Safety, and Occupational Health*;

h. AFPD 91-2, 1993, *Safety Programs*; and

i. AFPD 91-3, 1993, *Occupational Safety and Health.*

The *Occupational Safety and Health Act of 1970* states that employers will provide a workplace free of recognized hazards that cause, or are likely to cause, death or serious physical harm.

Title 29 Code of Federal Regulations (CFR) Section 1910.95, *Occupational Noise Exposure*, states that protection against the effects of noise exposure shall be provided when the sound levels exceed those shown in this regulation.

1.2 Hazardous Waste and Solid Waste Recyclables

1.2.1 Regulatory Requirements/Guidance

The United States Environmental Protection Agency administers the *Resource Conservation and Recovery Act of 1976* (*RCRA*) (Title 42 Unites States Code [U.S.C.] Sections 6901-6991). This act regulates the handling, transport, storage, treatment, and disposal of solid and hazardous waste (HW). It places responsibility for HW on the facilities generating the waste and requires them to meet various standards regarding personnel training, facility inspections, waste identification and analysis, emergency response planning, and recordkeeping.

Edwards AFB Instruction (EAFBI) 32-119, *Edwards Air Force Base Hazardous Material Management Process* (2008), implements AFI 32-7086, *Hazardous Materials Management* (2004). It provides guidance for personnel responsibilities and procedures essential to operate an effective hazardous material management program on Edwards AFB. This instruction contains guidance for all DOD, contractor, and tenant organizations. The EAFBI 32-119 is implemented to ensure that the base remains in compliance with all applicable federal, state, local, and Air Force regulations and laws regarding hazardous materials management. This instruction involves the use of information systems and positive control of hazardous material to minimize occupational exposures, monitor and minimize environmental releases, and minimize HW disposal. The hazardous material processes are reviewed to ensure that the least occupationally and environmentally hazardous materials are used. All hazardous material transactions would occur using the current automated data system fielded for use at Edwards AFB.

Air Force Instruction 32-7042, *Solid and Hazardous Waste Compliance* (1994), implements AFPD 32-70, *Environmental Quality* (1994). The AFI 32-7042 identifies compliance requirements for all solid and hazardous waste, except radioactive waste. In the United States and its territories, this guidance is intended to be used with applicable federal, state, and local standards for solid and hazardous waste. Specifically, it contains requirements for solid and hazardous waste characterization, training, accumulation, turn-in, and disposal, as well as procedures for managing disposal contracts, inspections, permits, and recordkeeping. This document refers to AFI 32-7080, *Pollution Prevention Program* (1994) for guidance on recycling.

The *Edwards Air Force Base Hazardous Waste Management Plan* (HWMP) *Number 32-7042* (Air Force Flight Test Center [AFFTC], 1999) supports Air Force regulations and is intended to ensure compliance with applicable federal, state, and local regulations. The objective of the HWMP is to provide sufficient administrative direction and instructions for originators of *RCRA* and non-*RCRA* wastes to properly characterize, package, label, store, treat, handle, and transport HW at Edwards AFB. The goals are to ensure compliance with the applicable federal, state, and local HW regulations; simplify administrative procedures; and reduce pollution and environmental impacts through improved waste management practices.

Hazardous waste regulated in the state of California must be managed in accordance with Title 22 Code of California Code of Regulations Division 4.5 regarding HW management, and California Health and Safety Code § 25100, *Hazardous Waste Control*.

The *Pollution Prevention Act of 1990* (*PPA*) (42 U.S.C. 13101–13109) established a national policy for pollution prevention through source reduction and recycling. The *PPA* calls for the establishment of a nationwide source reduction program and a strategy for quantifying source reduction efforts.

The *Municipal Solid Waste Management Plan (MSWMP) for AFFTC/EMCP* (AFFTC/ Environmental Management Directorate, Environmental Quality Division, Pollution Prevention Branch), *Edwards Air Force Base, California* (AFFTC, 2000) describes Environmental Management's functional management of municipal solid waste disposal and recycling at Edwards AFB. The purpose of the plan is to comply with federal, state, and local regulations and Air Force policy and guidance on the management of nonhazardous municipal solid waste.

1.3 Biological Resources

1.3.1 Regulatory Requirements/Guidance

The *Endangered Species Act of 1973* (*ESA*) (16 U.S.C. 1531 et seq.) provides a framework for the protection of endangered and threatened species. Federal agencies may not jeopardize the existence of listed species, which includes ensuring that actions they authorize, fund, or carry out, do not adversely affect the species or adversely modify designated critical habitats. Under the *ESA*, all federal departments and agencies must utilize their authorities, as appropriate, to promote the recovery of listed species. In addition, the *ESA* prohibits all persons, including federal agencies, from harming or killing (taking) individuals of a listed species without authorization. While federal agencies must consult with the United States Fish and Wildlife Service (USFWS) when their activities may affect listed species, projects cannot be stopped unilaterally by the USFWS; however, for any anticipated take to be authorized, applicable measures developed in the consultation to minimize the take must be followed.

The *Migratory Bird Treaty Act of 1918* (*MBTA*) (16 U.S.C. 703–712), as amended, provides for federal protection of all migratory bird species, their active nests, and eggs. Permits are required to remove these birds from their roosting and nesting areas. The federal government is exempt from the *MBTA* permit requirements based on the court decision in the *MBTA*, but must minimize take caused by their activities. Nonfederal contractors are required to obtain a depredation permit from the USFWS prior to removal or disturbance of nesting birds.

The *Sikes Act* (16 U.S.C. 670a–670o), as amended, provides for cooperation between the Departments of the Interior and Defense and state agencies in planning, developing, and maintaining fish and wildlife resources on military installations throughout the United States.

The *California Endangered Species Act* (*CESA*) (California Fish and Game Code § 2050 et seq.) generally parallels the main provisions of the *ESA* and is administered by the California Department of Fish and Game (CDFG). Under the *CESA*, the term 'endangered species' is defined as a "species of plant, fish, or wildlife which is in serious danger of becoming extinct throughout all, or a major portion of its range" and is limited to species native to California. The

CESA establishes a petitioning process for the listing of state threatened or endangered species, and the CDFG is required to adopt regulations for this process. The *CESA* prohibits the taking of state-listed species except as otherwise provided in state law. Unlike the *ESA*, the *CESA* applies prohibitions to species petitioned for state listing (e.g., state candidates).

Air Force Instruction 32-7064, *Integrated Natural Resources Management* (2004), implements AFPD 32-70, and Department of Defense Instruction 4715.3, *Environmental Conservation Program* (1996). The AFI explains how to manage natural resources on Air Force property in compliance with federal, state, and local regulations and is a key tool for managing an installation's natural resources.

1.4 Energy Resources

1.4.1 Regulatory Requirements/Guidance

The *Energy Policy Act of 1992* (*Energy Policy Act*) (PL 102-486) requires federal entities to identify and accomplish all energy and water conservation measures with payback periods of less than 10 years.

Executive Order (EO) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (2007), identifies the Department of Energy as the lead agency responsible for implementing the act and establishes seven goals regarding energy use that are applicable to federal agencies. These goals target reduction of:

a. Greenhouse gases;

b. Petroleum use;

c. Energy use by industrial, laboratory, and other facilities;

d. Total energy use (as measured at the source);

e. Water consumption (and associated energy use); and

f. Expanded use of renewable energy.

Executive Order 13423 also requires federal agencies to conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically, and fiscally sound, integrated, continuously improving, efficient, and sustainable manner. This EO defines 'sustainable' as to create and maintain conditions, under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic, and other requirements of present and future generations of Americans. Goals identified in the EO include:

a. Improve energy efficiency and reduce greenhouse gas emissions of the agency, through reduction of energy intensity by (1) 3 percent annually through the end of Fiscal Year (FY) 2015, or (2) 30 percent by the end of FY 2015, relative to the baseline of the agency's energy use in FY 2003;

b. Ensure that (1) at least half of the statutorily required renewable energy consumed by the agency in a FY comes from new renewable sources, and (2) to the extent feasible, the agency implements renewable energy generation projects on agency property for agency use; and

c. Beginning in FY 2008, reduce water consumption intensity, relative to the baseline of the agency's water consumption in FY 2007, through life-cycle cost-effective measures by 2 percent annually through the end of FY 2015 or 16 percent by the end of FY 2015.

The *Edwards Air Force Base Energy Plan* (AFFTC, 1995b) serves as a component of the *Edwards Air Force Base General Plan* (AFFTC, 2001) and documents the policies, direction of development, and specific projects associated with the base's desire to meet the national energy goals established by the *Energy Policy Act*.

1.5 Socioeconomics (Social Resources, Quality of Life, and Aesthetics)

1.5.1 Regulatory Requirements/Guidance

The *National Environmental Policy Act of 1969* (*NEPA*) (42 U.S.C. 4321 et seq.) is a policy which requires the "federal government to use all practicable means" "and resources to the end that the nation may assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings; and preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice.

The *NEPA* requires agencies to determine if their proposed actions have significant environmental effects and to consider the environmental and related social and economic effects of their proposed actions.

Significantly, according to *NEPA*, requires the consideration of both context and intensity. "Context means that the significance of an action must be analyzed in several contexts such as society as a whole, the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the work as a whole. Intensity refers to the severity of the impact. In evaluating intensity, the following should be considered:

a. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas; and

b. The degree to which the effects on the quality of the human environment are likely to be highly controversial" (40 CFR 1508.07).

An EA or Environmental Impact Statement (EIS) "shall provide full and fair discussion of significant environmental impacts and shall inform decision makers and the public of the

reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment" (40 CFR 1502.1). The "human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. Economic or social effects do not require the preparation of an EA or EIS by themselves" (40 CFR 1508.14).

APPENDIX C
ADDITIONAL AFFECTED ENVIRONMENT DATA−BIOLOGICAL RESOURCES

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1.0 ANIMAL SPECIES

Common mammals that may occur at Branch Memorial Park and Pond include the black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audoboni*), and coyote (*Canis latrans*). Potential rodents include the deer mouse (*Peromyscus maniculatus*), grasshopper mouse (*Onychomys torridus*), little pocket mouse (*Perognathus longimembris*), Merriam's kangaroo rat (*Dipidomys merriami*), and desert woodrat (*Neotoma lepida*). Potential bats include the western pipistrelle (*Pipistrellus hesperus*) and little brown bat (*Myotis lucifugus*).

Reptiles that may occur in the area include California horned lizard (*Phrynosoma coronatum frontale*) and the desert tortoise (*Gopherus agassizzii*). The California horned lizard is a California endemic species, with a habitat range from Shasta County, southward along the edges of the Sacramento Valley into much of the South Coast Ranges, San Joaquin Valley, and Sierra Nevada foothills to northern Los Angeles, Santa Barbara, and Ventura counties and can typically inhabit sandy loam areas and alkali flats. California horned lizards prefer slow-moving streams and ponds. California horned lizards are insectivores and feed on mainly ants, but also consume other small invertebrates such as spiders, beetles, termites, flies, bees, and grasshoppers. The California Department of Fish and Game (CDFG) has designated certain vertebrate species as 'Species of Special Concern' due to declining population levels, limited ranges, and/or continuing threats that have made them vulnerable to extinction. California horned lizards are taxonomically grouped with the coastal horned lizard (*Phrynosoma coronatum*) and are a *California Endangered Species Act* (California Fish and Game Code § 2050 et seq.) species of special concern (CDFG, Habitat Conservation Branch, website, 2008).

The desert tortoise is an herbivorous reptile that resides on base. The desert tortoise range includes the Sonoran and Mojave deserts of Southern California, Southern Nevada, Arizona, extreme Southwestern Utah, and Sonora and Northern Sinaloa, Mexico. This species is listed by the Unites States Fish and Wildlife Service (USFWS) and the CDFG as threatened. The desert tortoise is the only resident federally-listed species with legally required mandates on management practices. However, desert tortoise relative densities for the area are low, with relative density and corrected sign for the immediate area being three and zero. In 1994, the USFWS designated portions of the base as 'desert tortoise critical habitat' (USFWS, *Biological Opinion for the Precision Impact Range Area, Edwards Air Force Base, California,* 1994). However, Branch Memorial Park and Pond are not within desert tortoise critical habitat.

Branch Memorial Park and Pond provides nesting areas for a variety of migratory bird species protected by the *Migratory Bird Treaty Act of 1918* (*MBTA*) (16 U.S.C. 703-712). Common birds that may be found in the area include the barn owl (*Tyto alba*), common raven (*Corvus corax*), house finch (*Carpodacus mexicanus*), Loggerhead shrike (*Lanius ludovicianus*), sage sparrow (*Amphispiza belli*), western meadowlark (*Sturnella neglecta*), and black chinned sparrow (*Amphispiza bilineata*). These birds can use the area for foraging and nesting. California horned larks (*Eremophila alpestris*) are also common and may be found in the area. The horned lark prefers open areas with little to no cover and nests on the ground in grasses or under shrubs.

Least Bell's vireo (*Vireo bellii pusillus*) and the southwestern willow flycatcher (*Empidonax traillii extimus*), both listed by USFWS and the CDFG as an endangered species, have the potential to occur in the area. The least Bell's vireo was historically common in the San Joaquin, Sacramento, Santa Clara, and Owens valleys, where as much as 80 percent of the population nested. Other

locations included the Salinas River Valley and along the Amargosa River. Currently, breeding occurs in only a few scattered areas of riparian habitat in southern California, primarily along the coast and the western edge of the Mojave Desert. The Santa Margarita River in San Diego County supports nearly half of the United States population. Other sites are located in Inyo, Santa Barbara, Ventura, Riverside, Orange, San Bernardino, and San Diego counties. Least Bell's vireos migrate between mid-March and early April to their breeding grounds in southern California, where they remain until July or August. According to the CDFG website, the birds feed almost entirely on insects. While least Bell's vireo has the potential to migrate through the area, due to habitat preferences, location, and use of the area, it is unlikely that nesting would take place at Branch Memorial Park.

Southwestern willow flycatcher (*Empidonax traillii extimus*) was placed on the federal Endangered Species list in 1995. The southwestern willow flycatcher breeds in dense riparian habitats along rivers, streams, or other wetlands. The vegetation can be dominated by dense growths of willows (*Salix* sp.), seepwillow (*Baccharis* sp.), or other shrubs and medium-sized trees. There may be an overstory of cottonwood (*Populus* sp.), tamarisk (*Tamarix chinensis*), or other large trees, but this is not always the case. In some areas, the flycatcher will nest in habitats dominated by tamarisk and Russian olive (*Eleagnus angustifolia*). One of the most important characteristics of the habitat appears to be the presence of dense vegetation, usually throughout all vegetation layers present. While southwestern willow flycatcher has the potential to migrate through the area, due to habitat preferences, location, and use of the area, it is unlikely that nesting would take place at Branch Memorial Park.

The snowy plover (*Charadrius alexandrinus*) can be found on barren or sparsely vegetated sand beaches along the coast and on alkaline flats and river bars farther inland. They winter primarily in coastal areas on beaches and tidal flats. Snowy plovers breed in loose colonies and feed primarily on aquatic invertebrates. The western snowy plover (*Charadrius alexandrinus nivosus*) is federally listed as threatened, is a CDFG species of special concern, and has the potential to occur in the area. The western snowy plover occurs in inland areas during the breeding season at the Salton Sea, Mono Lake, and at isolated sites on the shores of alkali lakes in northeastern California, in the Central Valley, and southeastern deserts (CDFG website, 2008). The western snowy plover, in general, nests, feeds, and takes cover on sandy or gravelly beaches along the coast, on estuarine salt ponds, alkali lakes, and at the Salton Sea (CDFG website, 2008). The inland population breeds on barren to sparsely vegetated ground at alkaline or saline lakes, reservoirs, and ponds; on riverine sand bars; and at sewage, salt-evaporation, and agricultural wastewater ponds (CDFG website, 2008). The habitat for the wintering range is primarily coastal; beaches, tidal flats, lagoon margins, and salt-evaporation ponds with the inland population regularly wintering at agricultural wastewater ponds in the San Joaquin Valley and at desert saline lakes in southern California (CDFG website, 2008).

Seasonal migratory birds use both permanent and temporary bodies of water for foraging freshwater shrimp and other invertebrates. Seasonal rains at Branch Memorial Pond attract wading bird species, including the American avocet (*Recurvirostra americana*), American coot (*Fulica americana*), black-necked stilt (*Himantopus mexicanus*), and greater yellowlegs (*Tringa flavipes*). These bird species use the area to forage for aquatic invertibrates and nest. Other birds that could use the area include the black-crowned night heron (*Nycticorax nycticorax*), Forsters tern (*Sterna forsteri*), great egret (*Ardea alba*), great-tailed grackle (*Quiscalus mexicanus*), green heron (*Butorides virescens*), tricolored black bird (*Agelaius tricolor*), Say's phoebe (*Sayornis saya*), snowy

egret (*Egretta thula*), white-faced ibis (*Plegadis chihi*), western kingbird (*Tyrannus verticalis*), Wilson's warbler (*Wilsonia pusilla*), yellow warbler (*Dendroica petechia brewsteri*), and yellow-headed blackbird (*Xanthocephalus xanthocephalus*). These bird species require the reeds or marsh habitat for foraging and nesting.

Ducks and geese such as the ruddy duck (*Oxyura jamaicensis*), northern mallard (*Anas platyrhynchos*), northern pintail (*Anas acuta*), Canada goose (*Branta canadensis*), and snow goose (*Chen caerulescens*) feed on a variety of aquatic plant material making the pond an important food source for these game species.

The following migratory bird species, listed as California species of special concern, may be found in the area:

a. California horned lark;

b. Loggerhead shrike;

c. Tricolored blackbird;

d. White-faced ibis;

e. Yellow-headed blackbird; and

f. Yellow warbler.

Table C-1 lists migratory bird species sighted at Branch Memorial Park and Pond in April 2008. In 2000, AMEC Earth and Environmental conducted a bird survey on Edwards Air Force Base (AFB). Table C-2 lists the bird species that were sighted during the survey at Branch Memorial Park and Pond.

Overall water quality of the pond can be directly correlated with fish health and mortality rates. The centralized pump in the pond maintains stable water levels and provides aeration, both essential to fish health and the overall health and carrying capacity of the pond.

Table C-1. Migratory Bird Species Observed at the Pond in April 2008

Common Name	Comments
American Coot	Commonly observed at the pond
Black-necked stilt	Multiple birds
Canadian Goose	Incidental sighting
Forster's Tern	Incidental sighting
Great Egret	Potentially nesting
Great-tailed Grackle	Incidental sighting
Pied-billed greebe	Incidental sighting
Say's Phoebe	Incidental sighting
Snowy Egret	With great egret
Tricolored blackbird	Potentially nesting
Wilson's Warbler	Incidental sighting
Yellow warbler	Incidental sighting
Yellow-headed blackbird	Nesting; multiple birds
White-faced ibis	Multiple birds

Table C-2. AMEC Bird Survey Results, 2000

Common Name	Scientific Name	Status
Golden Eagle	*Aquila chrysaetos*	DFG: FP DFG: WL USFWS: BCC
Black Tern	*Chlidonias niger*	DFG: SSC
California Gull	*Larus californicus*	DFG: WL
Double-Crested Cormorant	*Phalacrocorax auritus*	DFG: WL
Greater White-Fronted Goose	*Anser albifrons*	DFG: SSC
Snowy Plover	*Charadrius alexandrinus*	DFG: SSC USFWS: BCC *ESA*–threatened
White-Faced Ibis	*Plegadis chihi*	DFG: WL
White-Tailed Kite	*Elanus leucurus*	DFG: FP

Notes:
1. DFG–Department of Fish and Game
2. FP–fully protected
3. WL–watch list
4. USFWS–United States Fish and Wildlife Services
5. BCC–Bird of Conservation Concern
6. SSC–California Species of Special Concern
7. *ESA–Endangered Species Act of 1973*
8. Source: California Department of Fish and Game website, 2008 and Edwards AFB Environmental Management Geographic Information System Data, 2008

2.0 PLANT SPECIES

Halophytic phase saltbush scrub is dominated by four species of the genus Atriplex: spinescale (*A. spinifera*), shadscale (*A. confertifolia*), four-wing saltbush (*A. canescens*), and quailbush (*A. lentiformes*). At Edwards AFB, there are approximately 55,300 acres of Halophytic phase saltbush scrub habitat, which comprises approximately 18 percent of the area of the base.

The park area is dominated by large trees and turf. Common trees at Branch Memorial Park include the cottonwood tree (*populus* sp.), honey mesquite (*Prosopis glandulosa*), and Tamarisk (*Tamarix chinensis*). Pine species (*pinus* sp.) and willow oak tree (*quercus phellos*) are also planted in the area. Tamarisks and cottonwood are the predominant riparian plants at the pond. The honey mesquite is one of the few native trees found in the Mojave Desert and on Edwards AFB. Mesquite trees or groves on base are found in, near or just south of Branch Memorial Park and have been designated as ecologically significant areas by Los Angeles County. Mesquite trees are also very important for sustaining desert wildlife. Mesquite trees provide food and shelter for many species of animals including: mammals, reptiles, insects, and numerous species of birds. Mesquite is a nitrogen fixer and may modify soil fertility. Soil nitrogen can be three to seven times greater beneath mesquite canopies than in interspaces between mesquite (*Estimates Of N2-Fixation From Variation In The Natural Abundance Of 15N In Sonoran Desert Ecosystems,* [Shearer et al. 1983], *Long-Term Effects Of Mesquite Removal On Soil Characteristics: I. Nutrients And Bulk Density,* [Tiedemann and Klemmedson 1986]). The honey mesquite is a phreatophyte (a deep-rooted plant that obtains its water from the water table or the layer of soil just above it), but consumes less water than Tamarisk species. Tamarisks are an exotic phreatophyte,

and consume relatively large amounts of water. Tamarisks are invasive and will out compete native vegetation.

Other plant species include four-wing saltbush and narrowleaf cattails (*Typha angustifolium*). One hundred Lancaster milk vetch (*Astragalus preussii* var. *laxiflorus*) plants were recorded near Branch Memorial Park. Lancaster milk vetch is listed by the California Native Plant Society as 1B.1 (rare, threatened, or endangered in California and elsewhere). Table C-3 presents a list of other plant species found at Branch Memorial Park and Pond.

Table C-3. Plant Species Found at Branch Memorial Park and Pond in April 2008

Common Name	Scientific Name
Bur-weed	*Ambrosia acanthicarpa*
Cheat grass	*Bromus tectorum*
Fiddle neck	*Amsinckia tessellata*
Foxtail grass	*Hordeum murinum*
Joshua tree	*Yucca brevifolia* var. *brevifolia*
Rabbit brush	*Chrysothamnus nauseosus*
Red brome	*Bromus rubens*
Red stem filaree	*Erodium cicutarium*
Salt grass	*Distichlis spicata*
Split grass	*Schismus barbatus*
South American horse weed	*Conyza bonariensis*
Western pineapple weed	*Matricaria occidentalis*

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APPENDIX D
PUBLIC COMMENTS AND CONCERNS

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Table D-1. Summary of Email Questionnaire

Topic	No. of Users
Fishing Frequency	
1-20 Days per Year	35
21-80 Days per Year	21
81-150 Days per Year	5
151-250 Days per Year	2
251-365 Days per Year	1
Months of the Year Pond Used	
January through December	12
March through October	28
Spring Only	5
Summer Only	9
Spring and Summer	10
Have State of California Fishing License	
Yes	41
No	23
How Long Been Using Branch Pond	
Less Than 1 Year	9
1-4 Years	32
5-9 Years	8
10+ Years	15
Use Park Facilities	
Yes	48
No	16
Attend or Volunteer Fishing Derby	
Yes	38
No	26
If Pond Closed, Would Drive to Off-Base Pond	
Yes	35
No	29

Table D-2. Comments and Concerns from Base Users

Civilian employee−You can't beat the base fishing pond for security and peace from the weirdoes that can appear at public parks. I wish the pond was more accessible, but all the weeds are beginning to limit access to the water, which can harbor snakes, etc. The area should be patrolled more by police and get the restrooms cleaned and serviceable. Install an emergency phone direct line to the base operator or 911.
Civilian employee and retiree−Keep the pond open!
USAF TSgt−Although this pond does not contain the best fishing it does offer a close fishing hole to the base population. This becomes more important as the cost of gas continues to rise.
USAF TSgt−My kids and I both enjoy the base pond. Not having the pond would take away from our down time to relax away from the everyday busy day.
Civilian employee−I believe every attempt should be made to keep the pond open. It does increase the quality of life here at Edwards AFB; to those who enjoy the outdoors and spending time with their family fishing.
Civilian employee−Please keep the pond open, it has been a great little oasis to take the kids to.
USAF TSgt−I know a lot of folks that fish in the pond, but I don't have their contact info. I'm sure many will be disappointed if we 'close' it. I know that Friday an email circulated from 412 OG about QoL funds opening up some and asking for ideas where to spend them. I think this qualifies for use, because my quality of life would certainly be negatively affected if I no longer had a place to take my family fishing.
Civilian employee and retiree−The pond/park is the only place that residents and employees can go to and momentarily forget that we live in the middle of the desert.
Civilian employee−Please refund for the fishing license this year.
USAF Major−With the price of gas going up, I think more people will be doing things on base. Apollo Park in Lancaster is a 60 mile round trip. Other lakes are even farther than that.
USAF SSgt−This provides a wonderful place for my family to visit and picnic. My children love coming to this pond. With rising gas prices it would be a huge burden to drive off base (for us who live on base) to the next nearest location of water.
USAF TSgt−Please don't close the pond!!
USAF Lt Col−Taking away this MWR (moral welfare and recreation) function will only further erode an already eroding MWR capability. If we improve the fishing pond to near its full capability, we will see it being used more. I'm sure the fishing club would be more than willing to pitch in labor help to make this happen.
Civilian employee and retiree−Keep the pond going, it's home to an abundance of wildlife. If it's about money, let's do fundraisers, we can always come up with the money. But it might be something that someone somewhere wants to see it removed with no regard to what someone did a long time ago to make Edwards Air Force Base, located in the Mojave Desert, more leisure-able to live in.

Table D-2. Comments and Concerns from Base Users (Continued)

Retiree−Edwards AFB is what we call a long way from fishing off Base. California City park used to have good fishing until they started using reclaimed water. Now the water is bad and the carp fish have taken over the pond. Apollo park is next to Fox Air Field off Highway 14, Avenue G. The Park is stocked with Trout during the winter months and they stock Catfish once during the Summer. They don't tell you when they are stocking except for kids fishing derby and adult fishing derby. In about 1 to 2 weeks, the Park is just about fished out. Most of the time, the Park is very crowded with people. Most of the other Lakes are a long drive. I highly recommend that Branch Park stay open for fishing, Park Recreation, Bird Watching, and Animal Watching. I plan to take my grandchildren to fish at Branch Park.
USAF TSgt−My 4-year old would be upset to see it go away. She went on her first fishing trip and caught her first fish at last year's derby.
USAF Lt Col−This would be a huge loss for several of our Airmen who look forward to fishing for their recreation.
USAF SMSgt−The pond is one of the nicest places on base for people who enjoy the outdoors and I was already disappointed that it hasn't been kept up. At one time it looks like it was really nice and even had marked nature trails. Me and my whole family would be extremely disappointed if the pond was closed.
USAF Lt Col−I would fish with my kids there more if it was stocked more often.
Civilian employee−I have not ever fished in the Branch Pond, but I have attended many 'gatherings' there and I feel the loss of the pond would negatively impact the 'atmosphere' there. Please put me on the list of people who would request retaining and improving Branch Park/Branch Pond.
Civilian employee−If one more thing closes up on base, what will there be in place for families or the scouts (I am affiliated with Girl Scouts) to use.
USAF Lt Col−I only fish during the fishing derby. It is a very nice park though and we go there occasionally (5 times per year) to picnic. I vote to keep it open.
USAF TSgt−Closing the pond would have a negative effect on morale for everyone who uses the park. In my flight alone, seven individuals fish the ponds religiously.
Civilian employee−Although there are other parks on base, such as Arnold, they are dedicated to other things, like sports, rather than an oasis for the preservation of birdlife on the Pacific Flyway. Of other similar water bodies within about 70 miles to the north, there are only the California City pond at the golf course, the Silver Saddle ponds, and Little Lake. Silver Saddle and California City have people living in close proximity and the bird life is not the same as at Branch Park. Little Lake has been a natural lake since about 10,000 years ago and is one of the best locations for birdlife in the state, but it is a long way off. Birds need stop off points in their migration activities and Branch Park offers a good one. I believe that the same goes for ponds to the south. Lake LA and Palmdale come to mind, and they are also quite a distance away.
USAF Captain−~35 Cub scouts use this lake each summer to earn their fishing belt loop and pin.

Table D-2. Comments and Concerns from Base Users (Continued)

USAF SSgt−I understand the funding issues we are having and the lack of use the base facilities are getting with the reduced military presence here, but we still need to take care of the personnel and families that are here. The pond is a great resource and a great place to spend time with children. Edwards is too isolated to be reducing the family support. I do not feel we should question if funds should be spent on quality of life resources, if anything, we should ask ourselves what we can do to improve our lives and make Edwards better. When it comes to budget cuts, it's the Air Force that should make the sacrifice, not our Airman and families.
Civilian employee and retiree−Look at the history about the pond, Quality of life.
Civilian employee and retiree−Many people have come to this base from other parts of the country where access to fishing was very easy. Branch Pond gives people of that lifestyle a place to 'get away' from the desert and out of their cooped up homes. It boosts morale, camaraderie, and keeps people from going out of their minds. Also, it seems that hardly anybody knows about the pond. I'll be bragging about my fishing trips and most are like 'There's a pond out there?!' and seem willing to check it out. Though it is good for fisherman to keep traffic low, it may be more beneficial if the pond was publicized more to get more attendance out there. Maybe an addition to the road sign that states there is fishing and picnicking.
Civilian employee−Of the two parks on base, Branch and Arnold, Branch is the one you go to for solitude and to be closer to nature and to actually be able to fish if you want to. Arnold doesn't have the fishing availability and is closer to base 'civilization.' I love to go out to Branch and 'poke' around in the sand for tracks. As a novice tracker it's fun to see which tracks I can identify. If you close the Pond, the water will go bad, the fish will die and the animals that use it as a source of water will be forced onto areas you'd rather not see them in such as the golf course, base housing, and any compound on base that has water.
USAF TSgt−I like having a place nearby that I can take a quick trip to fish.
USAF MSgt−I just recently purchased my permit, but was looking forward to being able to take my family out to the pond for a relatively cheap price and enjoy what Edwards had to offer. Closing it for an extended time frame would be just another black-eye on the QoL issues that seem to be creeping up more often here at Edwards.
USAF Lt Col−I thought the AF cared about our quality of life!
USAF SSgt−This is the first year I started fishing at the lake, but me and the wife find it very convenient to go there to fish. There are no local places to fish. With gas prices, rising I don't want to go to another lake that is an hour plus away.
Civilian employee−Our parks are the last frontiers for recreation and for a short getaway. If anything, let's make our park look better. If we can spend money on toilet seats for 600.00, I think we can take that same $600.00 and invest in cleaning up the restrooms and adding seat benches.
Civilian employee−My dad was active duty and we lived on base...going out to Branch Park started me fishing, and it is now probably the most enjoyable thing I do to this day. It also kept me out of trouble and is actually a very productive fish pond!!

Table D-2. Comments and Concerns from Base Users (Continued)

Civilian employee–Over the last few years the facility maintenance has been missing. The time before last, the doors on the restrooms would not close and there was no running water. The trash cans had not been emptied. The road had very large pot holes and the grass was not mowed. That is the condition of parks where the owners are trying to discourage visitors.
Civilian employee−This pond is not only for recreation and beauty, but it is a piece of history, it used to be the test pilots ejection over water simulations if I remember correctly. And are homes of many of the Edwards AFB wildlife. There are not many things to do on base as a kid (first-hand experience).
Civilian employee−This is the most MWR item I use; it would be a shame to lose it.
Civilian employee and retiree−Taking my kids fishing has had a very positive and lasting impact on my relationship with my children. It is my middle son's favorite hobby. Initially, he required constant assistance (to be expected), but eventually became self sufficient and he is very, very proud of that (and so am I). I know he will pass these skills on to his own kids. We would hate to see the pond closed. We would miss the fishing, wildlife and the scenery very much.
Civilian employee and retiree−I have been using this pond since 1973 when I lived out here. I then began taking my son and wife fishing there and I enjoy the secure surroundings and the respect people show each other while fishing. This pond is maintained well and I will continue to use it as long as it remains open.
Civilian employee−The rising cost of gas also make our fishing pond a great family past time for the kids outdoor recreation.
Civilian employee−Please keep the pond open for fishing.
Civilian employee−While I do not fish and am not a frequent Branch Park user, it does seems that it would be a shame to NOT have this resource available for organizational picnics like last year's EWG (Electronic Warfare Group) picnic and to have it available for personnel living on base to serve as a respite from the desert environment. In the past I have attended the park and found it very tranquil and well kept.
Civilian employee−I've been here almost 18mo and didn't know there was a pond on base. Now that I know of it, I'll be watching this issue closely after I get educated on the situation.
USAF TSgt−The pond was one of the first activities we took part in when we arrived and my whole family enjoyed it very much. We would be more involved with it if some of the grass around the bank was cleared out to allow for more access to fish. Also, the fishing derby puts a lot of demand on the amount of fish in the pond, if I knew there was something swimming in there afterwards I would make it a point to visit more often.
USAF 1st Lt–There is already becoming less and less to do at Edwards. If the pond closes, you will have added to the list.
Civilian employee−Many folks are not aware of the park. A makeover and RE-Opening Campaign would probably benefit the Family community of Edwards, especially with gasoline expense to drive off base for same type of facilities.
USAF TSgt−The ability to utilize a fishing pond on base is a great asset, due to the area we are in; the location of the pond is extremely convenient. There are not any other places to fish within several miles from base, and every time I am there, there are usually other people utilizing the pond as well. I feel closing it would have a negative impact on QOL issues for many people.

Table D-2. Comments and Concerns from Base Users (Concluded)

USAF SSgt−Branch Park is a great place for my family to hang out. It is one of the few areas on base that is green and my family can get away from a desert scene.
USAF SSgt−At this base and its particular location, closing this pond would make my life miserable. Branch Pond is one of very few things I like about this base. My kids love Branch, I love Branch, and many others on this base do as well. Seriously. Doing this would kill the morale of my entire shop, as there are 5 to 6 of us. And we all fish there on a daily basis. Closing down Branch Pond would be the "WORST IDEA EVER!!!"
USAF TSgt−I like to use the pond since it's close to drive to since I live on base plus I like to take the kids out there where I don't have to worry about them as much since it's a bit safer than going to a river or a place I'm not familiar with. Plus it's a great place to take the kids so they can learn how to fish.
USAF TSgt−PLEASE MAKE REPAIRS!! Once the decision is made not to repair it, it would cost a lot more to fix it if the decision is reversed. For more information on a situation like this, contact the Beale AFB Game Wardens. They made the bad decision not to repair a lake on base. A few years later, they looked into getting it repaired and the cost rose immensely. They ended up losing one of the best fisheries on Beale AFB.
Civilian employee−Branch Pond is very nice place to fish although it's not well advertised. I can't tell you how many times I've talked to people who don't know it exists (including base residents). Since my arrival to Edwards in 1993, I enjoyed many good trips fishing for catfish during the hot summer nights with my kids. A jewel not to be tampered with.
Civilian employee−Would really like to see the pond stay open and stocked. There's no other outside recreation area like this on base, and it's a long drive to other lakes considering gas prices these days. I would also suggest that most personnel who use Branch Pond wouldn't mind paying a reasonable membership for upkeep and stocking.
USAF Lt Col−Very valuable to keep the pond open to help morale.